

THE INDUSTRIALIST.

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NUMBER 28

THE INDUSTRIALIST.

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COLLEGE BUSINESS.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Applications for Farmers' Institutes should be addressed, as early in the season as possible, to the President.

The Experiment Station should be addressed through the Secretary.

THE NEW COLUMBIAN STAMPS. III.

BY PROF. A. S. HITCHCOCK.

WE see on the three-cent stamp the Santa Maria, the flag-ship, and on the four-cent value, this and the two smaller vessels, the Pinta and Nina, forming the fleet with which Columbus made his first voyage to the New World.

It is difficult to obtain data concerning these vessels, but they were evidently what we should call small. Columbus chose small vessels because he thought they would be better adapted to investigating the coast of a new country. They were built according to the fashion of those days, open in the middle and decked over and built high at bow and stern. The largest, the Admiral's flag-ship, had three masts, and, from the meagre descriptions, was probably rigged about as represented in the picture. It will be observed that the rigging is with square sails. At present "fore and aft" rigging has almost displaced the other. The schooner is the type of this latter style. The sail is stretched between two booms, the forward ends of which are attached to the mast, and the sails thus swing around one edge as a pivot instead of around the center as in square sails. The upper boom, or gaff, is free, and hence takes a position more nearly in the direction of the wind, while the lower boom is held at a given angle by a rope attached at the end. A square sail, however, is attached to the yard by its upper edge and held in position by ropes from the two lower corners. When the wind is fair, that is, blowing in nearly the direction the ship is sailing, square sails serve their purpose very well. But when there is a head wind and it is necessary to sail "by the wind"—to make the angle between the direction of the wind and the course sailed as small as possible—the schooner rig has a great advantage. A good vessel of this kind can sail within four points (45°) of the wind, and can therefore, by tacking, sail a general course directly against the wind.

But we know that the fleet of Columbus could not do this. There are several instances when he was obliged, after repeated trials, to give up a certain course on account of head winds. The fore and aft rigging is now applied not only to yachts, cutters, and other fast sailors, but to large merchant vessels with three, four, or even five masts, known as three, four, and five-masters.

The methods of sailing in the 15th century seem quite crude in comparison with those of today. The hinged rudder had just come into use, supplanting the ancient method of steering by means of two paddles thrust through ports on either quarter. This was operated by a tiller, the wheel being a much later invention. The anchors were attached by hempen cables, instead of iron chains, and hence were easily chafed off by the rocks.

The science of navigation was in its infancy. The mariner's compass had been in use for about a century, and had during that time given a great impetus to geographical exploration, although sailors rarely ventured far out of sight of land. But the variation of the compass was first observed by Columbus, and added no little to the consternation of his crew.

Latitude was calculated essentially as at present, from the altitude of the polar star, or of the sun at noon, but this angle was measured by a very inferior instrument, the astrolabe, instead of the sextant, as at present. Longitude was at that time calculated by dead reckoning, by estimating the distance sailed east or west, and in the open sea there would of course be no way of checking results, while now the longitude is calculated from the difference between the noon

hour at the required point and at some standard meridian, usually Greenwich or Washington. The noon hour is obtained by observing with the sextant the greatest altitude of the sun. As the variation in altitude about the time the sun crosses the meridian is so slight as to be difficult to measure, it is customary to make one observation before and another after, and calculate the noon hour. The difference in time is measured by a chronometer, upon the accuracy of which much depends. This is set for the time on the standard meridian, and guarded against accident with the greatest care. It is hung in gimbaled, and not touched except when it is wound.

But the sailors of the fifteenth century obtained their dead reckoning by means of estimating the speed of the vessel by the eye alone, the log not coming into use till about 1570. With the most improved logs the results are uncertain, and are relied on only during cloudy weather when sun observations cannot be taken.

When we think of the small and rude vessels in this little fleet, the scant knowledge of the science of navigation possessed by seamen, the terrible uncertainty surrounding the whole project and the ignorant and superstitious character of his crew, the tact, skill, and determination of Columbus shines forth with renewed lustre. He deliberately shaped his course, and, according to his own reckoning, sailed 3535 miles through an unknown sea. His sailing west from the Canaries instead of Spain was providential, as it brought him within the influence of the trade winds. But even these favorable winds gave cause to his crew for apprehension, for they might never be able to return against them. They were thirty-three days between the Canaries and San Salvador, sailing nearly all this time with easterly winds.

The masterly seamanship of Columbus is shown on the return voyage. The flag-ship was wrecked off the coast of Haiti, and he started for Spain with the two remaining caravels, leaving a colony on the island of Haiti to await his return. The home voyage was remarkably tempestuous. The two vessels without decks, and in an almost unseaworthy condition, were subjected to a raging Atlantic storm for about three days. At this time Columbus had kept the reckoning so well that he correctly placed himself in the vicinity of the Azores, while the pilots supposed they might be near Madeira or Spain. The storm separated the Pinta and Nina, but they both survived the tempest, and reached Spain in safety. What finally became of the two vessels is not known.

THE RING FINGER.

BY PROF. A. B. BROWN.

WHY is the third or ring finger so restrained in its motions and so much more difficult to educate than the other fingers of the hand?

The answer to this oft-repeated query—of piano and organ pupils—is found in the anatomy of the finger. By its peculiar relation to the other fingers there is a check to its free and unrestrained motion, which does not affect its neighbors, and because of this check it is much more difficult to control than the others, although in other respects the fingers seem to be equally endowed.

That we may see more clearly how this finger is restrained in its motions, let us imagine the skin to be removed from the back of the hand; we will find two tendons going to the first finger, two to the little finger, and but one going to the middle, and one to the ring finger; the tendon going to the ring finger sends off a short tendon on each side, one of which short tendons goes to join the tendon of the middle finger, and the

other goes to join the tendon of the little finger. Now, when the tips of the little and middle fingers are held down on the keys of the piano, the tendons of these fingers on the back of the knuckles are drawn tight over the knuckles; and it is to these tendons, tightly drawn down, that the accessory slips of the ring finger tendon are attached, which ring finger you wish to elevate, and which can only be elevated by its own tendon, now held down by virtue of the attachment of its accessory slips.

It is related of Robert Schumann that he contrived an apparatus to hold back his ring finger. This apparatus consisted of a cord applied to his ring finger and then passed up to the ceiling and through a pulley fixed there, and then down again, so that he could elevate his finger by means of this cord, at his will, while playing his instrument. His device was not only unsuccessful, but by it he permanently injured his whole hand. This injury so interfered with his playing on the piano that he turned his attention to writing. To this experience of his we are perhaps largely indebted for the great number of valuable compositions he has left us.

How can an unrestrained extension of the ring finger be secured? In two ways: First, by long-continued effort in practice—when these accessory but restraining slips are elongated by nutritive change, by growth. Second, by dividing these by a slight surgical operation, which can easily be done, as they are placed external to the fibrous sheath encasing the deeper structures of the hand, and without in the least impairing the powers of any finger or of any part of the hand.

Of those who have tried this latter way “short cut” to piano technic, suffering little pain and escaping with a slight loss of blood, none have reached honorable distinction in their art, while Liszt, Rubinstein, Von Billow, and others from abroad, and Sherwood, Mason, Goldbeck, and others here in America, all have had ring fingers to overcome and conquer. The emancipation and equalization of the ring finger by faithful persistent effort is, both in itself and in its influence upon the development of the other fingers, the key to the achievement of the pianist's technic.

SCIENTIFIC CLUB REPORT.

January 27th.

President Willard called the Scientific Club to order at half past seven. The minutes of the previous meeting were read and adopted. Prof. Nichols presented the paper of the evening on

ELECTRICAL UNITS.

Men of science are beginning to recognize the importance of referring all measurements to a common system of units, that is, to render numerical values of physical quantities independent of the particular instruments used to measure them. It is easy to imagine the confusion that would be carried into the commercial world if each dealer used his own arbitrary measure. There is a real confusion from the different numbers of pounds of the various products required to make a bushel in the different States. Before the invention of the Fahrenheit thermometer with absolute reference points, the degrees of the various thermometers meant little relatively and nothing absolutely.

With no uniform electrical units, each experimenter was obliged to go over the whole ground alone instead of taking advantage of the results of others. Thus one observer defined an electrical force as that required to overcome a tension of 1000° of his tension balance.

Not until 1881 was a united effort made to establish uniform dynamic, magnetic, and electric units; though previous to this time, through the efforts of Gauss, Weber, Thompson, Maxwell, and others, a system of units gradually came into

OCCUPATIONS OF FORMER STUDENTS.

BY PROF. FRANCIS H. WHITE.

IT has been asked quite frequently what occupations are followed by students of this College who do not finish the course. Last Fall it was determined to secure data that would enable us to answer the question with some degree of accuracy. Requests for information were sent to all students not now in attendance, who have been catalogued since 1877 as “Second-year students.” They were asked to report the occupation pursued since leaving College and the one they expected to follow permanently.

The table presented herewith shows the present and proposed occupations of all who have replied,

except those who are on our list of graduates. About six hundred under-graduates were addressed, and about forty-three per cent responded. Undoubtedly our request for information failed to reach a large number because of changes in residence of which we had not been informed.

It should be understood that the information obtained is only in regard to those who have had the benefit of the course beyond the “first year.” These are divided according as they have nearly or fully completed the first, second, or third term's work of the last three years. No facts have been collected concerning the large number of students who have left the College during, or at the conclusion of, their first year.

	TOTAL REPORTING.												
	UNDecided.	FUTURE.	STUDENTS HERE.	STUDENTS ELSEWHERE.	Present.	MARRIED.	NO OCCUPATION.	Present.	MARRIED.	NO OCCUPATION.			
STUDENT ELSEWHERE.													
Present.													
TEACHING.													
RAILROADING AND TELEGRAPHY.													
PROFESSIONS.													
OFFICE WORK AND COMMERCE.													
FARMING.													
Present.													
First term of second year.....	18	18	7	7	9	8	2	5	5	3	2	3	47
Second term of second year.....	18	20	3	2	5	1	3	7	2	2	1	1	34
Third term of second year.....	14	16	9	2	10	6	3	7	5	3	3	4	48
First term of third year.....	5	4	1	1	3	2	2	3	3	1	1	1	15
Second term of third year.....	7	4	1	2	1	1	1	4	2	1	1	2	15
Third term of third year.....	5	.....	.....	.....	5	3	1	4	1	1	1	1	12
First term of fourth year.....	.....	.....	1	1	.....	1	2	.....	1	1	1	1	3
Second term of fourth year.....	2	1	1	.....	1	.....	1	1	1	1	1	1	4
Totals.....	69	63	23	15	33	22	13	32	18	9	10	9	178
Per cent of total reporting.....	39	35	13	8	19	12	7	18	10	5	6	5	13

	TOTAL REPORTING.														
	UNDecided.	FUTURE.	STUDENTS HERE.	STUDENTS ELSEWHERE.	Present.	MARRIED.	NO OCCUPATION.	Present.	MARRIED.	NO OCCUPATION.					
STUDENT ELSEWHERE.															
Present.															
TEACHING.															
RAILROADING AND TELEGRAPHY.															
PROFESSIONS.															
OFFICE WORK AND COMMERCE.															
FARMING.															
Present.															
First term of second year.....	10	9	1	2	1	2	3	2	9	17			
Second term of second year.....	4	3	2	2	1	1	4	5	1	2	1	13		
Third term of second year.....	6	5	1	2	2	1	3	9	10	3	5	1	23	
First term of third year.....	5	6	1	1	3	1	1	6	1	9		
Second term of third year.....	2	1	1	1	1	1	1	2		
Third term of third year.....	8	5	1	1	3	5	1	5	1	12		
First term of fourth year.....	2	2	1	1	1	1	2	1	3		
Second term of fourth year.....	1	1	1	1	1	1	1		
Totals.....	38	31	5	5	4	3	3	5	22	26	6	10	31	2	80
Per cent of total reporting.....	48	39	6	6	5	4	4	6	28	33	7	13	39	3	

WOMEN.

HOUSEKEEPING.

OFFICE WORK AND COMMERCE.

INDUSTRIES.

OTHER.

TEACHING.

RAILROADING AND TELEGRAPHY.

PROFESSIONS.

OFFICE WORK AND COMMERCE.

INDUSTRIES.

OTHER.

TEACHING.

RAILROADING AND TELEGRAPHY.

PROFESSIONS.

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VOLUME XVIII.

MANHATTAN, KANSAS, SATURDAY, FEBRUARY 4, 1893.

NUMBER 23.

State Teachers' Association SUPPLEMENT.

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J. W. COOPER, Vice-President.
MISS LIZZIE BARNHART, Secretary.
I. B. MORGAN, Treasurer.
H. N. GAINES,
GEO. W. WINANS,
WM. M. DAVIDSON,
W. H. OLIN,
B. F. YEAROUT,
Executive Committee.

COMMITTEES.

Auditing—J. N. Wilkinson, A. S. Olin and O. L. Phillips.
Resolutions—C. M. Light, J. L. Williams and J. W. Cooper.
Library Award—Guy P. Benton, Mrs. Lucy Best and J. H. Glotfelter.
Flag Award—E. Stanley, Josie Rivards, David Swinehart.

AUDITING COMMITTEE'S REPORT.

Report of Auditing Committee, submitted to the Kansas State Teachers' Association at Topeka, December 23, 1892:—
Balance in hands of former Treasurer, as shown by report of Auditing Committee December 31, 1891 \$791 30
January 1, 1892, error in enrollment and dues 20 00
9, A. W. Leech, expenses 2 50
15, M. M. Murdock, printing 197 00
16, D. S. Pence, expenses 35 00
March 14, Exhibit at World's Fair 200 00
April 30, Library, attendance prize 46 00
July 20, Kansas badges, N. E. A. 22 00
21, Monument to H. D. McCarty 100 00
23, Geo. W. Crane & Co., printing 5 00—627 50
August 1, Balance transferred to present Treasurer 163 80

TREASURER'S REPORT.

J. D. Orr, Acting Treasurer, in account with the State Teachers' Association:—

DEBIT.

To balance on hand August 1, 1892. \$163 80
*Enrollment fees—241 at \$1.00 241 00
†Membership fees—257 at \$.50 128 50—533 30

CREDIT.

By Baptist Church, janitor's services 5 00
Baptist Church, rent 6 00
V. H. Biddison, expenses as member of Ex. Com. 25 00
Carl Betz, traveling expenses 6 00
Geo. W. Crane & Co., printing 59 75
W. H. Dignon, rent of 600 chairs at 10c 60 00
Eli G. Foster, expenses of Entertainment Com. 11 43
E. B. Guild, rent of piano 7 00
Janitor High School, services 3 00
Industrialist, printing and mailing report 10 00
C. F. Kendall, rent of opera house 100 00
C. F. Kendall, services of ticket seller 4 50
J. E. Klock, expenses as member of Ex. Com. 16 00
H. E. Bruce, expenses as member of Ex. Com. 35 40
Kansas Committee on N. E. A. headquarters 26 50
S. M. Nees, expenses as member of Ex. Com. 33 00
May Merchant Pierce, traveling expenses 6 00
J. M. Rogers, postage, May meeting of Co. Supts. 2 50
Geo. W. Smith, and others—Janitor work in House and Senate 25 00
Western Union Telegraph Co. fourteen telegrams 9 70
G. W. Winans, postage etc. 36 15
Balance in Treasury 45 37—533 30

Approved:

J. N. WILKINSON,
A. S. OLIN,
O. L. SMITH,
Auditing Committee.

*See names indented in report of members.

†See names not indented in report of members.

ROLL OF MEMBERS.

Acton, Mrs Emma Concordia
Acton, W S Aurora
Ahlborn, Ida Baldwin
Allen, J O Junction City
Anderson, E Clyde
Anderson, Miss M L Olathe
Andrews, Miss A M Belleville
Andrews, O A Clay Center
Andrews, Sadie Emporia
Arnold, L D Enterprise
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Ashbaugh, Mrs Z R Topeka
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Bacheller, E B Oakley
Bailey, M A Emporia
Bailey, G H Mankato
Baker, F H Norton
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Balcomb, J B Russell
Baldwin, Mrs J R Ada
Barkley, D M Howard
Barlow, Louise Council Grove

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Bassett, Miss M C	Concordia	Topeka
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Beach, Mary E	Medicine Lodge	Culver
Beals, L E	Medicine Lodge	Culver
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Bennett, Belle	Ft. Scott	Russell
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Best, Mrs Lucy	LaCygne	Emporia
Bethards, Minnie	Russell	Waverly
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Biddison, V H	Eureka	Clay Center
Bilson, W J	Russell	Concordia
Bittler, C W	Argentine	Concordia
Black, Emma	Topeka	Concordia
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Bloss, S C	Wilson	Eureka
Bolan, W F	Ft. Scott	Clay Center
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Bowman, Ola	Newton	Concordia
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Butler, V D	Belleville	Parsons
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Canan, Geo	Oak Valley	Topeka
Carlson, Augusta	Irving	Sylvangrove
Carney, A B	Jamestown	Ft. Scott
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Clark, J N	St. Francis	Council Grove
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Clothier, Geo L	Marion	Fall River
Conste, Herma	Newton	Norton
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Cowles, A H	Hiawatha	Eskridge
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Craig, Mary	Hays City	Atlanta, Ill.
Creighton, E O	Winfield	Florence
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Crumpton, Alice	Larned	

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Hillis, E L	Stafford	Moore, Laura	Ft. Scott	Simmerwell, E A	Topeka
Holsinger, Mary	Rosedale	Morgan, I B.	Sabetha	Simpson, J A	Beloit
Howard, J S	Kansas City	Morris, Miss B C	Lawrence	Simpson, Marietta J	Russell
Howard, S M	Waterville	Mosher, J N.	Smith Center	Simpson, W	Norton
Howes, J W.	Russell	Munsell, Mary E	Eureka	Simonton, Hattie	Lewisville
Hoxie Mrs. S C	Topeka	Murray, Anna C	Valley Falls	Sinclair, W M	Coffeyville
Hoxie, L E	Topeka	Myer, Miss M	Williamsburg	Sipley, Nora	Heber
Hunter, S J	Lawrence	Myers, C W.	Turner	Skukers, C D	Sedan
Jay, Inez	Lyons	Myers, Maud	Valley Falls	Slusser, Mrs F R	Kansas City
Jay, W M	Salina	Myler, E W.	Baldwin	Smith, E D	Pottersburg
Jayn, C E	Bird City	Naff, J H	Erie	Smith, F P	Ottawa
Johnson, Chas	Longton	Neese, Missouri	Richland	Smith, L B	Clyde
Johnson, J M	Topeka	Ness, S N	Independence	Smith, O L	Phillipsburg
Jones, Dora	Emporia	Nelson, Maggie	Emporia	Sommers, Albert P	Carmel
Jones, Eva	Eureka	Nelson, Rose E	Seneca	Spencer, F M	Sterling
Jones, H W.	Alma	Neshamn, Maggie	Topeka	Spray, L M	Lansing
Jones, M' Louise	Emporia	Newlin, Clara	Emporia	Squires, Cora	Lansing
Jordon, Josiah	Topeka	Nihart, B F	Herington	Squires, F J	Miltonvale
Kane, E M	Aurora	Nold, S P	Holton	Stacey, Mrs Emma	Effingham
Katner, F E	Troy	Norton, F S	Industry	Stacey, W A	La Cygne
Kellar, Anna	Independence	Norton, Grace	Larned	Stahl, F S	Lasita
Kelly, Charles	Clifton	Nowlin, C H	Kansas City	Staley, Wynne	Pomona
Kelly, D S	Emporia	Olin, A S	Kansas City	Stanfield, Ida	Topeka
Kendrick, G W	Clay Center	Olin, O E	Manhattan	Stanley, E	Lawrence
Kennedy, A D	Kinsley	Olin, W H.	Oshorne	Stanley, Ervin	Beloit
Kiner, Miss R D	Hiawatha	Olks, Newton	Paola	Starcke, Ida	Junction City
King, Mrs L D	Carbondale	Oman, C H.	Kineaid	Stephenson, Lizzie J	Yates Center
King, Anna	Leavenworth	Orr, J D	Fort Scott	Stevenson, W C	Emporia
Kirk, Dora	Topeka	Oshorne, Lottie	Fulton	Stevenson, Mrs W C	Emporia
Kirby, Laura	Tonganoxie	Owen, S S	Gypsum	Stewart, Tillie	Mankato
Klock, J E	Leavenworth	Oxelson, Nellie	Eskridge	Still, Alice L	White City
Knipe, Geo D	Manhattan	Park, J B	Clay Center	Stringham, Lola	Lebo
Knox, May	North Topeka	Parker, R L	Paola	Strong, C A	Wetmore
Krone, Naomi	Independence	Parkinson, J A	Lyndon	Slyker, Wm	Great Bend
Kuhlmann, Miss E	Emporia	Pearis, J E	Lawrence	Sutton, Belle	Hays City
Kuhn, Ada	Hiawatha	Peffer, T C	Severy	Swine, Anna	Barnard
Lafferty, C W	WaKeeney	Peffley, Artie	El Dorado	Swinehart —	Dodge City
Lair, Ira	Buffalo	Pence, D S	Wichita	Swingle, C G	Manhattan
Lamport, Ida	Aurora	Perdue, E M	Fort Scott	Taggart, Edward	Concordia
Lansdon, W C	Ft. Scott	Perdue, Rosa	Garland	Taibert, Frankie	Topeka
Light, C M	Pittsburg	Perry, Ida	Independence	Taylor, A R	Emporia
Light, W A	Mound City	Petherbridge, R M.	Leavenworth	Taylor, E F	Cherryvale
Lindenmeyer, H E	Russell	Philips, M E.	Winfield	Taylor, Ed F	Frankfort
Lindley, Carrie	Hiawatha	Potter, Jennie B	Shawnee	Templin, O	Lawrence
Little, Emma	Alma	Price, Effie	Holton	Thompson, J W	Banner Springs
Lockard, F M	Norton	Purell, Mattie	Gordon	Thoroman, S O	Salina
Logan, W N	Beloit	Rahn, Roy	Clay Center	Tripp, Julia	Topeka
Longenecker, Oscar	Paola	Rake, C M.	Banner City	Troutman, Viola	Topeka
Loofbourrow, W K	Stockton	Rake, Mrs. C M.	Banner City	Trower, Ed E	Leavenworth
Louderback, A B	Moundridge	Ramsey, J A	Garnett	Tuckerman, Mrs M L	Topeka
Luginbill, J A	Oberlin	Ramey, W W	Waverly	Turner, T C	Eureka
Lyttle, Maggie	Topeka	Reasoner, Florence	Leavenworth	VauOstrand, B D	Marion
McBride, J H	Grainfield	Reece, Wm.	Emporia	VanVoris, W A	Reading
McBurney, J O	Marion	Reed, A T	Salina	Varvel, Frank	Concordia
McBurney, W D	Marion	Reed, R S	Clements	Walker, G W	Columbus
McBurney, Mrs. W D	Valley Falls	Reed, W W	Concordia	Wallis, A B	Johnson City
McCartney, Ethel	Oberlin	Revard, Josie	Leavenworth	Wallis, R L	Topeka
McCleery, Emma	Garnett	Rice, W F	Larned	Walters, J D	Manhattan
McClellan, F	Topeka	Rich, Edith M.	Russell	Watson, Austa	Eureka
McClintock, C S	Ogallala	Richards, Agnes	Geary City	Webster, Lessie	Washington
McCotton, D	Topeka	Richardson, Dr.	Wichita	Weich, Fanny	Williamsburg
MacDonald, John	Great Bend	Rigby, Isaac	Concordia	Welin, J E	Lindsborg
McDowell, Katie	Anthony	Rigg, M G	Eureka	Welton, S A	Almena
McGarrah, S. W	Palca	Riggs, Fannie	Emporia	Wheeler, A C	Delphos
McKenna, M	Topeka	Rise, W G.	Philipsburg	Wheeler, O E	Russell
McKernan, E T	Clyde	Roach, T W.	Concordia	White, Winnie	Clay Center
McMahan, E P	Clyde	Roberts, C H.	Dighton	Wiggam, Mrs J B	Emporia
McMahan, Mrs. E P	Council Grove	Rodgers, J W	Junction City	Wilbur, Hettie	Admire
Mack, Margaret A	Council Grove	Rogers, Sadie	Leavenworth	Wilkinson, J N	Emporia
Mack, Nellie	Wilson	Roop, C Y.	Salina	Williams, Fanny	Norton
Mack, Stella	Marquette	Rose, Emmet	Concordia	Williams, John L	Topeka
Madden, R T	Alma	Rose, Geo E	Rosedale	Williams, J L	Hutchinson
Madaris, Minnie	Twin Mound	Rose, Laura	Rosedale	Williams, Laura	Norton
Maichel, Lizzie	Lindsborg	Roudebush, E H	Topeka	Williams, R M.	Tampa
Malenberg, Mary	Junction City	St. John, Lillian	Manhattan	Winterburn, Hattie	La Crosse
Mallory, S V	Gaylord	Sanders, D E	Fort Scott	Woehner, Lou	Horton
Malone, R N.	Baldwin	Schenck, Geo	Burlington	Woodmansee, A W	Ellsworth
Markham, O B	Madison	Schuylar, Dr A	Salina	Woodmansee, R J	Ellsworth
Marquis, Ester	Oakland	Scott, A E	Meriden	Woods, Arnola	Walton
Martin, Anna M.	Oakland	Scott, Lewis	Axtell	Woods, Mary	Topeka
Martin, C H	Solomon	Sellers, E B	Wilson	Woodson, Mary	Emporia
Matson, Carrie	Arkansas City	Sellers, J T	Bunker Hill	Yearout, P F	Eureka
Maurer, W H.	Emporia	Sellers, Mary	Wilson	Young, W F.	Salina
Maynard, Mary E	Dorrance	Sellers, S J.	Topeka		
Meachin, H W	Sedan	Sewell, I O	Simpson	The flag and library for attendance were awarded to	
Mellor, Sophia	Topeka	Shacklett, J E	Severy	Cloud County.	
Menninger, Mrs. C F	Manchester	Shaffer, Hermie	Russell	The following were appointed a committee from the	
Merrill, Paul	Clay Center	Shearer, J L	Bunker Hill	State Association to consider needed legislation: G. W.	
Merten, B F	Girard	Sheldon, Georgia	Scandia	Winans, H. N. Gaines, E. Stanley, and J. E. Klock.	
Michael, Elsie	Russell	Shenk, Clara K	Russell		
Miller, Bertha	McPherson	Shepherdson, E A	Irving	Greetings by telegraph were received from California.	
Miller, Hannah		Shepherd, Charles	Concordia	Colorado, Iowa, Mississippi, and Pennsylvania Associations.	

CALENDAR.

1892-93.

Fall Term—September 15th to December 23rd.
 Winter Term—January 9th to March 31st.
 Spring Term—April 3rd to June 14th.
 June 14th, Commencement.
 1893-94.
 Fall Term—September 14th to December 22nd.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan., at once.

LOCAL MATTERS.

Are you going to attend the Lecture Course?

President Fairchild went to Topeka yesterday on College business.

Prof. Mason attends a Farmers' Institute at Garden City this week.

On account of the Hamilton Annual this evening, the Webster Society holds no session.

Gov. Lewelling's official signature graces a notary public's commission just received by Secy. Graham.

The Manhattan Horticultural Society will meet at the College next Thursday afternoon at the usual hour.

Prof. White will lecture before the Riley County Educational Association at Randolph, Saturday, March 4th.

The special course of lectures to farmers will begin Tuesday, February 14th, and continue to and including Saturday, February 25th.

The Columbian Committee of the Faculty met again this week, and will soon be ready to begin the collection of material for the exhibit.

Prof. Walters has made a number of sketches for the new Library and Museum Building which we hope to have ere another year has gone by.

The smoke stack for the new boiler for the propagating pits was raised Tuesday, and is the highest on the College grounds.

Senator Senn enjoyed the opportunity of observing the workings of the College the first of the week, while visiting his daughter, who is pursuing post-graduate work.

Lilla Harkins leaves next week to again take up her work as Professor of Household Economy in the South Dakota Agricultural College, at Brookings. Miss Harkins has for the past month been pursuing post-graduate studies here.

The good farmer has little spare time; but his duties are lighter, probably, during February than any other month, and he can easily find time to spend two weeks at the College in the special course of lectures, beginning February 14th.

Prof. Georgeson's letter from Queenstown announces a very pleasant though somewhat lengthy voyage of ten days. His contributions to Neptune extended over but one day, and no severe weather was experienced. He expected to reach Copenhagen about January 25th.

At the organization of the John A. Anderson Camp No. 73, Sons of Veterans, in Manhattan last Saturday evening, W. E. Smith, Fourth-year, was elected Captain and C. A. Kimball, Fourth-year, First Lieutenant. A. B. Kimball, '89, is First Sergeant, and Assistant Quartermaster's Sergeant.

The sudden change in the weather from tropical to zero temperature accompanied by a blizzard was a surprise not entirely pleasing to those having a long distance to come to College. As a consequence many chapel seats were vacant Wednesday morning, while their occupants were nursing frozen ears, noses, etc.

The College Exhibits in the Columbian Exposition are beginning to show their character somewhat, though much remains to be done. Delays in settling the location have interfered much with the perfecting of plans. The Regents hope that any provision made for State Exhibit will include means for making the College work prominent.

The Agricultural Experiment Stations of the United States have planned a co-operative exhibit of soils at the Columbian Exposition. Each State is limited to fifteen samples. Prof. Failyer, of this College, who is charged with the Kansas col-

lection, has made arrangements for samples of bottom and ridge soils—one of each—from the Blue, Kansas, Solomon, Arkansas, and Neosho; the plains soil from Winona, Logan County, and specimens showing the geological formations in Brown and Cowley Counties. Samples have been received from the Kansas and Blue districts at Manhattan from the Solomon at Osborne, from the Arkansas at Sterling, and from Brown and Cowley Counties.

The programme in Chapel yesterday afternoon consisted of orations from the fifth division of the Fourth-year Class, as follows: "A Pre-historic Race," E. J. Abell; "A Page of Kansas History," J. E. Thackrey; "Irving's Influence on American Literature," Nora E. Newell; "Moral Courage in High Places," J. B. Thoburn; "Our Debt of Life," C. H. Thompson; "Observation," Agnes Romick; "A Neglected Science," W. J. Yeonau; "What do We Know?" C. A. Kimball.

At the request of the Australian government a few years ago, the Department of Agriculture recommended Prof. E. M. Shelton of the Kansas Agricultural College as a suitable teacher of "Yankee" ideas of agriculture and stock-breeding to the farmers of the "land of the kangaroo," and now the Department again takes the professor of agriculture out of his chair at Manhattan, having recently commissioned Prof. Georgeson to study the dairy industry in Denmark, England, and Holland. This is certainly a compliment to the Kansas College, and its thorough, conscientious Professor of Agriculture, as well as an earnest of the Department's intention to accord the dairy industry some of that effective and valuable attention it has given to grain-raising and livestock husbandry. The Danes have achieved great cunning in the appliances for turning milk into butter and cheese; dairying in Holland with huge-uddered black-and-white cattle is a foremost industry, and England is well advanced in the art, so that much of value to American dairymen can be obtained by a careful study and a comprehensive report on dairying in those countries. We are of the opinion that the work of Prof. Georgeson will prove the wisdom of his selection for this mission.—*Breeders' Gazette*.

NEW BULLETINS.

Bulletin No. 35, from the Veterinary Department, deals with "Lump Jaw of Cattle," and "Some Observations upon Loco," with illustrations. The conclusions are as follows:—

LUMP JAW.

Actinomycosis bovis, or lump jaw, of cattle is a parasitic disease caused by the growth in the tissue of a fungus called actinomycetes. It appears as a lump or tumor, usually in the region of the head or neck, and may grow to a large size. This tumor usually discharges a yellowish pus, which contains portions of fungus known as actinomycetes. It is not transmissible from one animal to another by means of the actinomycetes as they are found in the pus. It can be transmitted to other cattle by inoculating with a piece of tissue from the tumor which contains the organism in a growing state. The actinomycetes which cause this disease are probably a degenerate form of some fungus which grows naturally upon feed stuffs or grain. When the spores of the original fungus are taken into the animal economy, they may gain entrance to the tissue, vegetate, and produce the disease known as *Actinomycosis bovis*, or lump jaw. There is no danger of persons contracting this disease from eating the flesh of affected animals, provided the visibly diseased portion is removed.

The treatment consists in removing the tumor, either with a knife or by the use of caustics. The iodide of potash given internally may effect a cure.

LOCO.

A careful survey of the experiments performed and observations noted leads me to the opinion that the disease known as "loco" is the result of mal-nutrition, or a gradual starvation, caused by the animals eating the plants known as "loco weeds," either *Astragalus mollissimus* or *Oxytropis lamberti*. If there is a narcotic principle in the plant chemists have failed to find it, and a fluid extract does not possess it, and a ton of the plant eaten by an animal ought to contain enough of the poisonous properties to destroy it.

It is extremely doubtful, even though there

might be a narcotic agent in the plant, that an animal can reason sufficiently to know that eating this plant would produce narcosis. Why they do eat the plant is probably because it remains more green and fresh after other plants have dried up, and also because of its peculiar taste, perhaps disagreeable at first, but soon accustomed to and attractive.

Whether the disease is the result of mal-nutrition or mal-assimilation, I am unable to say. It is reasonable to suppose that, as the loco plants remain green throughout the year, they would not contain as much nutritious material as other leguminous plants. If they do contain the nutritious material, it is not in a form in which it can be assimilated by the animal.

The reason why horses have fits of delirium or insensibility may be due to the formation of clots, or thrombi, in the blood-vessels of the brain, as there is a well-known tendency to their formation during wasting and debilitating diseases.

The general emaciation of the body, the flaccid atonic condition of the digestive system, the large amount of serum surrounding the brain and in the abdominal cavity, the swollen dropsical condition of dependent parts (from an enfeebled circulation), and the low temperature of the body, all point to the same cause, mal-nutrition.

The diseased condition of the brain gives rise to the peculiar "crazy" symptoms associated with this disease. It is well-known that if an animal suffers from degeneration of brain tissue, even though it may recover from the disease which caused it, it does not recover its normal mental faculties. This may account for the fact that a locoed animal never makes a complete recovery.

Treatment.—Prevention, by not allowing animals access to the plant, or by furnishing suitable food after the pastures have dried up, is much better than treatment. If an animal has acquired a taste for the plant, it should be placed where it cannot get the weed, and fed upon nourishing food. Some good "condition powders" may be given, as follows:—

Sulphate of iron, pulverized	1 ounce.
Gentian root, pulverized	4 "
Ammonia muriate, pulverized	1 "
Potassium nitrate, pulverized	1 "

Mix thoroughly, and give from a heaping teaspoonful to a tablespoonful, according to the size of the animal, in the food three times daily. It will, probably, require considerable time for the animal to recover somewhat its former vigor, and good, nutritious food is to be depended on more than medicine.

GRADUATES AND STUDENTS.

Jacob Lund, '83, is employed in the Mechanical Department.

Charlie Earl, '90, of Denver, Col., called upon College friends this week.

R. A. McIlvain, '92, is engaged in carpentry at Los Cerrillos, New Mexico.

Nora Fryhofer, Second-year in 1891-2, is here to attend the Hamilton Exhibition.

Mayme Houghton, '92, teaching at Randolph, came down last evening to attend the Hamilton Annual.

K. C. Davis, '91, Principal of Schools at Austin Minn., will soon introduce manual training in the High School.

P. H. Pagett, in Second-year classes last year, writes that he is taking the oratorical course at Campbell University, Holton, this winter.

"The Mountain Farmer" is the title of a column article in this week's *Kansas Capital*, written by Geo. V. Johnson, '92, from Centerville, Idaho.

"The Kitchen Garden," written by Bertha Kimball, and recently published in the INDUSTRIALIST, is reproduced in the *Kansas Capital* of February 2nd.

S. I. Wilkin, Third-year in 1891-2, took part in the Farmers' Institute at Stockton. He discussed the best fodders for western Kansas, and the method of handling to secure the best results.

Frank A. Waugh, of Kansas, has come to Denver and taken editorial charge of this journal. He is a graduate of the Kansas Agricultural College, and has had many years experience in the field, workshop, and newspaper office, and is an agriculturalist of wide reputation.—*Field and Farm*.

THE INDUSTRIALIST.

THE WEATHER FOR JANUARY.

BY PROF. E. R. NICHOLS.

Temperature.—The mean temperature for January 1893 was 22.99° , which is 2.1° below normal. There have been thirteen colder and twenty warmer Januaries in the past thirty-six years, the extremes being 12.35° , in 1886, and 38.3° , in 1858. The maximum temperature was 53° , on the 24th; the minimum, -1° , on the 15th, a monthly range of 54° . The greatest range for one day was 41° , on the 31st; the least, 4° , on the 26th. The warmest day was the 24th, the mean being 39.25° ; the coldest, the 14th, the mean being 8.25° . The mean of the observations at 7 A. M. was 18.16° ; at 2 P. M., 31.42° ; at 9 P. M., 21.19° . The mean of the maximum was 33.68° ; of the minimum, 13.1° , the mean of these two being 23.39° . There were well marked cold waves on the afternoons of the 12th, 14th, and 31st, and the morning of the 26th.

Barometer.—The mean pressure for the month was 28.9 inches, which is .04 inch above the average of twenty years. The maximum pressure was 29.332 inches, at 7 A. M. on the morning of the 15th; the minimum, 28.39 inches, at 7 A. M. on the 31st, a monthly range of .942 inch.

Precipitation.—The only measurable quantity of snow fell on the 27th-28th, about .2 inch, yielding about .02 inch, of water. This is the least precipitation, with one exception, in thirty-six years.

Cloudiness.—There were three days entirely cloudy, one five-sixths cloudy, two two-thirds cloudy, one one-half cloudy, eight one-third cloudy, two one-sixth cloudy, and fourteen clear. The per cent of cloudiness was 27, which is sixteen below normal.

Wind.—The wind was from the north twenty-one times; southwest sixteen times; northwest ten times; northeast eight times; south and southeast seven times; west sixteen times; east five times; and a calm thirteen times. The wind made fourteen and a half revolutions during the month. The total run of wind was 6666 miles, giving a daily velocity of 215.03 miles, and a mean hourly velocity of 8.95 miles. The maximum daily velocity was 496 miles, on the 31st; the minimum, 55 miles, on the 23rd. The maximum hourly velocity was 36 miles, from 9 to 10 A. M. on the 31st.

Below will be found a comparison with the preceding Januaries:—

January.	Number of rains.	Rain in inches.	Prevailing Wind.	Mean Temperature.	Maximum Temperature.	Mean Barometer.	Minimum Barometer.
1858	4	2.50	SW	38.30	59	-3	
1859	4	1.50	49	31.03	59	-3	
1860	1	.60	36	29.97	70	-6	
1861	3	1.35	41	23.61	60	-9	
1862	3	1.50	58	18.03	42	-6	
1863	2	1.47	40	36.52	69	-4	
1864	3	.44	51	23.17	60	-13	
1865	2	.33	12	NW	27.04	49	-5
1866							
1867	2	.65	50	22.57	47	-12	
1868	2	.31	43	18.15	61	-12	
1869	8	1.15	42	30.46	54	9	
1870	2	.05	44	27.35	58	-3	28.79
1871	4	.53	52	28.85	62	-7	
1872	2	.13	40	24.90	51	-8	
1873	5	.84	46	19.66	49	-14	
1874	2	.50	57	26.41	60	-4	28.72
1875	3	.22	57	14.87	48	-17	28.89
1876	0	.00	15	33.85	62	-6	29.37
1877	2	.46	70	25.20	64	-10	28.97
1878	6	2.35	78	33.09	55	0	28.76
1879							
1880	3	.56	54	37.82	61	15	28.55
1881	4	.50	61	19.35	49	-18	28.70
1882	4	.42	59	31.64	60	-1	28.72
1883	3	.25	58	18.02	55	-15	28.78
1884	1	.30	38	21.46	63	-22	28.78
1885	4	1.08	34	16.27	44	-18	28.68
1886	5	1.36	52	12.35	51	-19	29.01
1887	4	.68	28	22.05	62	-23	28.92
1888	2	.65	22	15.42	63	-26	29.24
1889	3	.78	25	27.84	58	-1	29.03
1890	5	2.31	35	23.10	62	-19	29.04
1891	4	1.63	42	29.44	57	-2	28.97
1892	4	.78	18	22.25	64	-26	29.01
1893	1	.02	27	22.99	53	-1	28.90
Means...	3	.83	43	SW	55.09	57	28.86

WIND RECORD.

January.	Total Miles.	Mean Daily.	Maximum Daily.	Minimum Daily.	Mean Hourly.	Maximum Hourly.
1890	1930	192.9	419	64	8.04	28
1891	6842	220.7	691	79	9.20	56
1892	6517	210.2	460	31	8.76	29
1893	6666	215.0	496	55	8.95	36
Means...	6501	209.7	517	57	8.74	37

SCIENTIFIC CLUB REPORT.

(Continued from page 94.)

meter per second. The unit of resistance is, the resistance through which one unit of electromotive will move one unit of current. These units are not convenient in practice, so some multiple of them is taken and called the practical unit. The practical unit of current is one-tenth of the C. G. S. unit and is called the ampere. One ampere will deposit 0.001118 gramme of silver in one second or the electro-chemical equivalent of any of the other elements. The practical unit of electromotive force is the volt, and is equal to one hundred million C. G. S. units. Ohm's law requires that the practical unit of resistance shall be one billion C. G. S. unit, and it is called the ohm. One ohm has a resistance equal to the resistance of 106 centimeters of pure mercury, having a cross section of one square millimeter, and temperature of 0° C. The unit of work is the watt, and is equal to the product of the volts into the amperes. 746 watts are equal to one horse power.

The principles and uses of the ammeter and voltmeter were explained.

Discussion followed Prof. Nichols' paper, after which, under voluntary reports, Mr. Willard described Moissan's electrical furnace, with which temperatures are attained exceeding any other furnace. Lime melts in it, and oxides hitherto unreduceable by carbon are reduced with ease by that reagent in this furnace. It promises to yield very interesting chemical results.

One new name was proposed for membership. Adjournment.

MARIE B. SENN,
Secretary.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

There are 257 school districts in the State, extending through 55 counties, which have not sustained at least three months' school in the year.

Miss Maud Stacey, of Topeka is a contributor to several Eastern periodicals published in the interest of young people. Her sketches reveal a rare literary flavor.

While the average salary of male teachers in the State is \$42.15 per month, female teachers get only \$35.42. The only glaring exception is Sedgwick County, where the "marms" average \$2.08 more per month than the "master."

The *Hesperian* wonders if so many of the college papers that publish foot-ball notices after foot-ball notices, do not do it because it is much easier to fill their papers with this sort of "hand me down" material than to write up something original.

The Presbyterian Church of Kansas has resolved to raise \$3500 for the College at Emporia and \$1500 for the College at Larned. It is expected that on the second Sunday of February every member will contribute at least one dollar for this purpose.

We are in receipt of Vol. I. No. 1 of the *Educational Index* of Winfield. It is published by A. Gridley and D. A. Tear, of the Winfield schools, and is brim full of good things of many kinds. The periodical will appear monthly, and costs 50 cents a year.

The Board of Regents of the State University have concluded to use \$90,000 of the Springer legacy to build a fire-proof library building, provided the State will appropriate an equal sum for the construction of a first-class chemical and physical laboratory. The University undoubtedly needs both buildings very much.

Governor Lewelling, in his message to the Legislature, says: "The parents and guardians of the children in our public schools have long complained of the exorbitant cost of text-books, and this subject should command your serious attention. I would earnestly recommend that some method be devised for supplying the necessary books free of cost to the school children of the State."

The world progresses, and our methods of governing our schools must progress with it. Flouting grown-up men and women has long ago ceased to be beneficial, if it ever was. Manhattan has had experience lately that fully demonstrates this proposition. Young men or women who do not strictly observe the rules of our public school system should be brought before the School Board and required to explain their conduct, and promptly expelled if they refuse to obey the rules. This plan would have a better effect than to apply the lash.—*Manhattan Mercury*.

COOKING BY ELECTRICITY.

It is proposed to utilize electricity for cooking and heating in private houses. Machines for the purpose have already been contrived. It is estimated that ninety meals for a family of ordinary size can be cooked in this way at a cost of \$6.57. For the house-heating, four machines, each doing the work of an ordinary stove, can be maintained for about \$6.40 per month, making a bill of \$12 or \$13 per month for cooking and heating. This amount seems moderate, while the accompanying advantages would be great. This method would obviate much labor in handling coal, would lessen dust, and save time now spent in kindling fires. It is a reform in household economy that seems quite practicable, and its realization would be hailed with delight.—*Woman's Column*.

What are we here for? should be the study of every youth in the land. I presume we are here for building up a character—one that will last and make us honored by good people and prepare us for the world to come. When we read of the character of great men it makes us want to copy them; and now is the time to begin.—*Louisville Home and Farm*.

It ought to be clearly understood that the American farmer is more broadly educated than the mechanic, and fully as well informed as the tradesman or shopkeeper.—*Implement News*.

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc. '75.

VARNEY'S BOOKSTORE.—Popular Headquarters for College Text-Books and Supplies. Second-Hand Books often as good as new. Call when down town. Always glad to see you.

DRY GOODS.

E. A. WHARTON'S is the most popular Dry Goods Store in Manhattan. The greatest stock, the very latest style, the most popular prices. Always pleased to show goods.

CLOTHING.

ELLIOT & GARRETSON, Clothiers and Furnishers, invite students and all other College people to call and examine their large stock of new goods. All the desirable things in men's wear. Latest styles in every department.

WATCHES, JEWELRY.

J. A. SHELDON, "the Jeweler." Established in 1867. Watches, Clocks, and Jewelry repaired. Eames Block.

R. E. LOFINCK keeps a big stock of Watches, Clocks, Jewelry, and Gold Spectacles, also Musical Instruments. '75.

E. K. SHAW, Jeweler and Optician. Watches, Jewelry, Silverware, Spectacles, Clocks, Fountain Pens, Gold, Pens, etc. Repairing of Watches, Clocks, Spectacles, and Jewelry done promptly and skillfully. A written guarantee given with all warranted watch work. 308 Poyntz Ave.

DRUGS.

W. C. JOHNSTON, Druggist. A large line of Toilet Articles and Fancy Goods. The patronage of students is solicited.

HARDWARE.

A. J. WHITFORD sells Stoves and Hardware at very low prices, and carries a large stock from which selections may be made. Student patronage respectfully invited.

DENTIST.

D. R. G. A. CRISE, Dentist, 321 Poyntz Ave. The preservation of the natural Teeth a specialty.

PHOTOGRAPHS.

D. EWEY, the photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue.

LIVERY.

PICKETT'S NEW LIVERY STABLE.—Everything new and strictly first-class, special attention will be given to student trade. Prices that will suit you. Stable three doors east of Commercial Hotel.

MEAT MARKET.

SCHULTZ

few, none of the grandeur which adorns our present civilization would be seen above the horizon. The desire for power is the impetus for improvement. It helps us shake off evil environments, and behold ourselves with relation to the world in a new light.

In conclusion, I would say, that if we possess little of ambition, we may cultivate that little to produce more. There is a higher aspiration in life than mere present satisfaction.

OTHER PEOPLE'S FURNITURE.

BY MRS. N. S. KEDZIE.

SOMETIMES it seems as though forgetfulness is the law of life and action when some people go to the homes of their friends. We are all more or less careless about articles which do not belong to us, and for which we feel no direct responsibility; but it does seem as though there should be a reform somewhere, and that people should be taught early in life that they ought to have a care for other people's property. We see this carelessness strongly shown whenever public property is to be considered, and the signs, "Keep off the grass," where it is perfectly apparent that if people do not "keep off" there will be no grass, "Don't hitch to the trees," when everyone should know that a horse will soon ruin a tree if he be hitched to it, are evidences that the general public needs constant reminders that public property must be taken care of. In the private homes there is often as much need for placards as in public parks and grounds, but the private individual has not the opportunity to even ask his friend to be careful of the choice book or blossom, the cherished picture or the treasured spoon, but, fearing to wound the sensitive feelings of the visitor, the owner must sit and see the one soiled by grimy fingers, or the last bitten by baby teeth because it is "such a nice thing to have baby happy at table." All these are impositions upon good nature.

The man who will spit upon the floor in his neighbor's house, who will sit and lean his head against the wall until he leaves a grease spot on the paper, who will sit tipped back until he loosens every joint in the chair he occupies, is treating his neighbor's furniture as he wouldn't like to have his neighbor treat his own property.

The woman who allows her chair to slip until the rockers scrape the baseboard, or the top strikes the polished case of the piano, or who permits her children to make of themselves disagreeable meddlers whenever they are in a friend's home, will often find that her friend is not so cordial as she once was, and readily falls into the belief that friendships do not last through many years.

One reason for all this is the fact that we do not treat our dearest and best friends with the courtesy that we give to strangers. We expect our friends to accept all sorts of rudeness from us; and then we hide behind the cloak of our real love for them.

A little more of the thought expressed by the Golden Rule would make us less selfish and protect our property as well. It is usually thoughtlessness; and this lack of thought begins early in life. If young people were taught to care for other people's property just as faithfully as they care for their own, and to keep their belongings from annoying other people, then public property, private furniture, and individual comfort would be much safer from destruction than we find it today.

Deplorable ignorance of even the first principles of road building,—for this is a science which, like any other, needs to be studied and learned,—together with the unwillingness of the average citizen to sacrifice his time and money for the common good, are responsible for the execrable condition of our roads.—*Good Roads.*

WINTER TERM INSTRUCTION AT OUR AGRICULTURAL COLLEGES.

The *Gazette* is much gratified to note the increasing interest in practical winter courses now being conducted at a number of our agricultural colleges. From all it can learn there are probably twice as many bona fide agricultural students in the agricultural colleges this winter as ever before. When these colleges were first founded no definite ideas existed as to the best methods of instruction and few practical teachers were available. Nearly every teacher had been educated in classical institutions and had an exalted notion of the liberal arts education. The scientific courses of twenty-five years ago were extremely meager compared to their present elaborated and immensely helpful forms. In many cases classically-educated and classically-minded professors became the heads of the agricultural colleges and constructed learned courses for the farmers' sons. When the students failed to equip themselves in these courses the overwise college presidents declared that the people were to blame and the farmers did not want education, and as pupils crowded in for instruction in other branches many institutions drifted far away from real agriculture, and the colleges attempted to satisfy their consciences by announcing the large number of students in attendance. Farmers were not satisfied, and in some cases new institutions were started, and in others separations occurred, and a few started off in the right direction.

After a time it began to dawn upon a number of these colleges that perhaps it would be well to change the character of these institutions and see if possibly more students might be obtained.

The founding of the experiment stations did much to open the eyes of the colleges to the real wants of the farmers and the needs of American agriculture. Moreover, the springing up of farmers' institutes brought the professors from the colleges out among the farmers, and from the better acquaintance each gained helpful knowledge. The farmers learned that many professors were really interested in agriculture, and the professors learned a good deal that was new to them about the wants of the agricultural class.

Out of the earnest desire to be of practical aid to agriculture has grown the popular short courses, and these courses promise to revolutionize our system of agricultural instruction. With a fair attendance of short-course students, the colleges are beginning their real work in earnest, and no doubt these courses will gradually be lengthened and at the same time strengthened until this new form of instruction will serve as the basis of the college curriculum in the future. The old long courses will doubtless be maintained in perhaps all the institutions for the purpose of providing that form of instruction to those who wish it, and unquestionably they should be followed by all who can afford it, but at present most of those who desire instruction in agriculture can hardly give the time required for preparation and the four years necessitated by the long course. For this reason it seems to the *Gazette* that middle-length courses, say of two years' duration, will prove most helpful to a large majority of those who wish to secure scientific agricultural instruction. This is as long a time as law or medical students ordinarily give to special preparation, and much may be learned of agriculture in that time if the foundation of a good general education has already been laid.

On one point college trustees need much more light—that is on the large expense necessary in providing the proper equipment for thorough agricultural instruction. There is required a farm with large and suitable buildings not only for stock, but stock as it must be arranged for student work. The animals required for proper illustrations constitute a heavy tax, for they must continually be replaced. But the stock department is only one of a dozen of the necessary adjuncts to a well equipped agricultural college. Each department requires a large outlay. It is this heavy expense that in no small measure has held our colleges back, but it must be incurred if students are ever to be taught as they should.

We are entering an era of better times for our agricultural colleges. The farmers' institute, the experiment station, and the college itself are working with the farmers better than ever before, and with the closer acquaintance on both sides rapid advancement may with certainty be expected.—*Breeders' Gazette.*

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

Congressman Simpson's daughter is attending Baker University.

That article on "College Refinement" in the *University Review* does not mention football.

Last week 127 new scholars entered the Topeka high school, bringing the enrollment up to nearly 500. The building is badly crowded.

A meeting of the State Committee on World's Fair music was held in Topeka last week. It was called by Mrs. Gaston Boyd of Newton, who was appointed Musical Director for Kansas. The meeting was attended by many prominent lady musicians from all parts of the State. The following local Directors were selected: Mrs. Kate Cross, of Emporia; Mrs. Millard H. Hodge, of Abilene; Mrs. F. C. Dunlap, of Lawrence; Miss Kate Blunt, of Leavenworth; Mrs. J. W. Jones, of Leavenworth; Miss Lilian Gant, of Wichita; and Mrs. George Parkhurst, of Topeka. It was decided that twelve choruses of fifty voices each should be collected to represent Kansas in the World's Fair musical festival.

COLLEGE ORGANIZATIONS.

Student Editors.—M. F. Hulett, Edith McDowell, C. H. Thompson.

Young Men's Christian Association.—President, J. E. Thackrey; Vice-President, J. B. Thoburn; Recording Secretary, G. L. Melton; Corresponding Secretary, M. F. Hulett; Treasurer, E. J. Hartzler. Meets every Sunday at 3 o'clock P. M. in Horticultural Hall.

Scientific Club.—President, J. T. Willard; Vice President, S. H. Hitchcock; Committee on Programs, J. T. Willard, ex officio, E. R. Nichols, A. S. Hitchcock; Secretary, Marie B. Senn; Treasurer, F. A. Marlatt. Meets on second and fourth Friday evenings of each month, in the Chemical Laboratory. Admits to membership advanced students and College officers.

Webster Society.—President, M. F. Hulett; Vice President, C. F. Pruetz; Recording Secretary, J. M. Williams; Corresponding Secretary, J. Stingley; Treasurer, E. G. Gibson; Critic, M. W. McCrea; Marshal, G. A. Dean, Board of Directors, G. W. Smith, H. G. Pope, J. V. Patten, C. E. Shoup, C. S. Wilson. Meets every Saturday evening. Admits to membership gentlemen only.

Alpha Beta Society.—President, C. H. Thompson; Vice-President, Fred Hulse; Recording Secretary, Onie Hulett; Corresponding Secretary, Jennie Smith; Treasurer, A. E. Ridener; Critic, Ivy F. Harner; Marshal, W. S. Trader; Board of Directors, C. H. Thompson, J. E. Thackrey, W. O. Lyon, Stella Kimball, Sadie Moore, C. M. Morgan, Onie Holt. Meets Friday afternoon at 2:30 o'clock. Admits to membership both ladies and gentlemen.

Hamilton Society.—President, W. E. Smith; Vice-President, W. J. Yeoman; Recording Secretary, W. H. Painter; Corresponding Secretary, W. E. Hardy; Treasurer, R. K. Farrar; Critic, J. A. Rokes; Marshal, W. E. Phillips; Board of Directors, L. L. Melton, H. L. Pellet, I. Jones, C. Adams, B. M. Brown. Meets on Saturday evenings. Admits to membership gentlemen only.

Ionian Society.—President, Nora Newell; Vice-President, Kate Pierce; Recording Secretary, Margaretha Horn; Corresponding Secretary, Flora Day; Treasurer, Ida Page; Marshal, Laura Day; Critic, Maude Knickerbocker; Board of Directors, Margaretha Horn, Mary Lyman, Olive Wilson. Meets Friday afternoon at 2:30 o'clock. Admits to membership ladies only.

February 3rd.

The Alpha Beta Society was called to order by President Thompson. Music, by quartette of violins, Miss Parker, Messrs. Trader, Abel, and Christensen. Miss Havens led in devotion. A declamation was delivered by Sadie Moore. J. M. Westgate gave a select reading entitled "Letting Pussy In." Debate, question, "Resolved, that the Populists were not justifiable in their action regarding the organization of the House of Representatives," was argued on the affirmative by J. E. Thackrey and J. B. Thoburn, on the negative by W. H. Phipps and E. J. Abel. The debate was very interesting and instructive. The Judges, Messrs. King, Odie, and Harling, decided two to one in favor of the affirmative. The Gleaner, having for a motto "If I am, why am I, and if not, why am I not?" was presented by the editor, W. O. Lyon. After recess a flute and violin duet by G. L. Christensen and J. C. Christensen. Just before adjournment a solo was rendered in an inviting manner by W. O. Lyon. J. R. S.

February 3rd.

The Ionian Society was called to order by President Newell. After the usual opening exercises, Misses Staver, Maas, and Henry were initiated. The program opened with an essay by Miss Frisbie. Miss Oldham presented the Oracle with the motto, "Onward and upward we progress." The editorial was very good, and among the interesting contributions were "A Visit to Libby Prison," and "Superstitions." A quartet by Misses Lyman, Helder, Newell, and Wilson was next given; Olive Wilson, Music Committee. Miss Lyman, accompanied by Miss Helder, sang "Drifting Clouds." One minute extemporaneous speeches were then given by Miss McDowell on "Chapel Rhetoricals," Miss Pierce on "The Websters," and Miss Swingle on "The most useful Industrial for girls." Miss Wilson favored the Society with a piano solo. Misses Mudge and Lantz on the affirmative, and Misses Lyman and Minnie Finley on the negative, then debated on the question, "Resolved, that grades should be taken as the standard for selecting Commencement speakers." Miss Mudge thought that it would be an incentive to study, that there would then be some honor in being a commencement speaker, and that there could be no favoritism shown in their selection. Miss Lyman said such a course would be apt to lessen the regard for class mates, making the student look upon them as simply competitors, that grades do not always show the standing, and it is the application of principles, not grades that count, and proposed other methods. The Judges, Mr. Kimball, Miss Knickerbocker, and Miss Maas, decided unanimously in favor of the negative. A vocal solo by Miss Helder, Miss Crump at the piano, closed the program. Dr. Mayo gave a short talk, by request, that was greatly appreciated by the Society. Report of Committees, business. Critic's report, reading of the minutes, adjournment.

F. D.

CALENDAR.

1892-93.

Fall Term—September 15th to December 23rd.

Winter Term—January 9th to March 31st.

Spring Term—April 3rd to June 14th.

June 14th, Commencement.

1893-94.

Fall Term—September 14th to December 22nd.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan., at once.

LOCAL MATTERS.

The course of lectures to farmers opens Tuesday morning.

Called meeting of the Board of Regents on Tuesday, February 14th.

Prof. Brown spent Saturday and Sunday with his family in Leavenworth, returning Monday night.

Fred Thompson, of Topeka, looked over the College Thursday with his cousin, Louise Stingley, Second-year last term.

Mr. and Mrs. J. Lee Knight, of Topeka, visited the College Wednesday morning in company of Mrs. Dow, of Manhattan.

Garden and Forest reviews Prof. Hitchcock's pamphlet, "The Woody Plants of Manhattan in Their Winter Condition."

A party from the State Normal School, at Emporia, on their way home from Clay Center, spent a short time looking over the College yesterday afternoon.

Wm. Shelton, for the past three years Foreman of the Farm, plans to leave next Wednesday for his new home at Wayland, Mass., where he will have charge of Millionaire Shaw's fine herd of Guernsey cattle.

J. W. Rain, our popular instructor in English last year, is completing his course at Oberlin College this year. In the oratorical contest he takes second place among six competitors, with the favor of the audience for first place.

Miss Grant, a teacher in the Girls' Industrial School at Beloit, has just completed a month's special work in domestic economy under Mrs. Kedzie, and will now spend a few weeks in study at the Bible School in Kansas City, Kansas.

The College Y. M. C. A. has donated the following books to the Library: "Missionary Addresses," "Present Day Tracts," "Short History of Missions," "China," "Mackay of Uganda," "The Crisis of Missions," and "In the Far East."

The last division of the Third-year Class entertained the Chapel audience yesterday afternoon with declamations as follows: "The Home in the Government," E. B. Coulson; "A Trip to the Holy Land," Lorena Helder; "Courage," D. L. Timbers; "An American," S. R. Vincent; "Industrial Freedom," Jennie R. Smith; "Literary Bitters," J. M. Williams.

Friends feel concern for Prof. Shelton and family in the floods reported by cable as inundating Brisbane, Queensland. Under date of February 7th the dispatches reported the water thirty feet deep in the principal streets of the city, and in the suburbs had covered buildings sixty feet in height. Five hundred houses are demolished. All the towns between Brisbane and Ipswich are under water, and the disaster is said to be the greatest in the history of the colony.

Hon. J. H. Bayer, of Yates Center, Representative from the Thirty-first District, visited the greatest Agricultural College in the world yesterday afternoon, spending several hours inspecting grounds, buildings, and equipment. Mr. Bayer expressed the hope that Legislative troubles would soon be settled that proper appropriations may be made for the continuance of a work that meets with the unqualified approval of the people of the State.

"The Woody Plants of Manhattan in Their Winter Condition," brief mention of which was made recently in these columns, is a pamphlet of twenty pages, in which Professor Hitchcock has arranged the woody plants of Central Kansas according to the appearance of their branchlets in winter and the character of their winter buds. The first division includes such plants as show

more than one leaf-scar at each node, with subdivisions, in which genera with pubescent and glabrous buds are grouped. In his second division are placed those genera which have one leaf-scar at each node, with two sub-divisions, in which are placed plants armed with prickles or thorns and those which are unarmed. The list includes sixty-three native plants and four, which, common in cultivation, have escaped from gardens.

Did you read Prof. Graham's article in last month's issue of this paper, in which he says: "A powerful agent in the acquiring of an education by the farmer's boy is the presence of the best papers and journals that money can buy upon his father's table. Life is too short and too valuable for either the farmer or his son to read anything but the best, and this, thanks to this day of cheap printing, is within the reach of everybody. A good paper is a mine of wealth from which the minister as well as the farmer may draw inspiration for better work, each in his own proper field."—*Western Homestead*.

Prof. O. E. Olin, in his admirable lecture in this city, made many happy points. One of these was in opposition to the earth is in danger of being over-peopled. He maintained that there is ample room for all now on the earth or likely to come to work out their destinies. So far, he said, from the popular notion of its requiring vast areas of country to hold the people now on the earth being correct, they all could, as far as space is concerned, stand together between two and three of our Congressional Districts. More territory is not what the United States needs: it needs the closer cultivation of what it already has.—*Osborne Farmer*.

In reporting the Farmers' Institute at Hiawatha, last week, the Topeka *Weekly Capital* says: "Prof. Popenoe in the afternoon addressed the meeting on the 'Use of the Spraying Machine.' After speaking of the necessity of spraying as a means of combating insects and fungous enemies, he made recommendations of machines and spraying mixtures. The Professor has found no other nozzle so satisfactory as the Vermoral, and would use that exclusively. A weak Bordeaux mixture is the best for destroying fungi on tender foliage. For making insecticide solutions, Paris green is preferable to London purple as it has less effect on the foliage. Kerosene emulsion, buhach, and carbon bi-sulphide were also recommended for certain kinds of insect pests."

GRADUATES AND STUDENTS.

Bertha Spohn, student last year, was on the Hill Saturday.

Sadie McCormick, of Zeandale, visited College friends on Monday.

Gertrude Haulenbeck, Second-year in 1891-2, visited College Friday.

Phil. Creager, '91, of the Topeka *Capital*, visited the College Saturday.

Lillian St. John, '91, greeted many College classmates and friends Saturday.

Matie Toothaker, Third-year, is kept out of College this week by illness.

A. D. Rice, '92, spent Saturday in showing friends the merits of our College.

Eben Blachly, Second-year last year, attended the Society Exhibition Saturday night.

G. W. Wildin, '92, came up from Topeka and spent Saturday and Sunday in the city.

Christine Corlett, '91, who is teaching at Cleburne, visited the College on Saturday.

John Davis, '90, Principal of Wakefield Schools, greeted friends at the College on Saturday.

Frank H. Morgan of Keats, student last year, greeted many former classmates last Saturday.

Florence Quantic, student last year, was down from Keats Saturday to attend the Exhibition.

Schuyler C. Harner, '90, now teaching near Garrison, visited in the city Saturday and Sunday.

Maud Gardiner, Fourth-year, was out of school for several days this week on account of sickness.

John W. Hartley, '92, extended a friendly hand to his many College acquaintances at the Exhibition.

J. E. Dorman, Second-year in 1890-91, visited the College the first of the week. Mr. Dor-

man, for some time past, has been employed as foreman of a Dairy Farm near Salt Lake City, Utah, and is now on his way to Chicago, in the employ of the Guernsey Cattle Club, where he will feed cattle in the "Columbian Breed Test."

Miss Fanny Leonhardt, of Manhattan, spent Friday at the College, with Jennie Smith, Third-year.

The beaming countenance of Elizabeth Edwards, '92, was among the many college visitors on Saturday.

Selma Lund, of Randolph, student last year, is making several days' visit with friends and former classmates.

Katie Arnold, of Louisville, came up to attend the Hamilton Annual, and to visit her brother Dean, Second-year.

E. C. Abbot, President of the Fourth-year Class, has had charge of the Logic Class during President Fairchild's absence.

Jessie Hunter, Second-year in 1891-2, left Monday for the Indian Territory to spend a few weeks with Mr. and Mrs. Sam Cobb.

Mamie Houghton, '91, Birdie Secret, '92, and Jessie Stearns, Third-year in 1891-2, came down from Randolph to attend the Hamilton Exhibition.

R. B. Abbott, Second-year last year, spent a day visiting his brother, and was one of the many ex-Hamiltons present at their Society's Exhibition.

C. E. Friend, '88, was married, January 26th, to Miss Norah H. Halston. Mr. and Mrs. Friend will be at home, Soldier, Kansas, after February 15th.

Bertha Bacheller, '88, who taught the grammar grade of the Sterling schools last year, has just been selected to fill a vacancy in the Lyons schools.

CLASS OF '93 ENTERTAINED.

Upon invitation of Mrs. Kedzie and Mrs. Winchip, the members of the Fourth-year Class met last evening at the residence of Mr. and Mrs. Davies, on College Hill, with whom Mrs. Kedzie is making her home. The evening was one of the most pleasant of the week, and was only exceeded in cheerfulness by the merry young people who composed the party. Each was received at the house with a cordial welcome, and the hostesses succeeded in making the evening most enjoyable.

One of the main features of the entertainment was a series of search queries regarding the copper cent. Each person was provided with a cent, card, and pencil, with instructions to search out the hidden mysteries. It was here that the young ladies first looked to a penny in search of a "devoted friend," and while the cent, with its more valuable relatives, has been an object of worship for many years, a "place of worship" was never before revealed in its make-up.

After the resources of information contained in the cent had been exhausted, each person was requested to write a couplet about this penny that had caused him an hour of perplexity. The Class of '93 has never had the reputation of being at all poetic, but from the results of that hour of trial and deep meditation, it is quite evident that, with proper encouragement, fortitude, and patience, success will crown their efforts, as the following excerpts will readily prove:—

In buying coal and paying rent,
It helps a little, this copper cent.
There is only one fault that I find with a cent:
That is, it is quite too easily spent.
To my wife, when my life is spent,
I will will this copper cent.
Tomorrow I'll say I'm glad I went,
For now I'm richer by just one cent.
Cents make dollars,
But poets don't make scholars.
If pennies are not too rare
I'll go to the World's Fair.
You are only a penny, small and flat,
But I'm glad I got you for all of that.
A penny in itself is small;
But what's the diff' for that:
It jingles loud as any dime
When you throw it in the hat.

At the conclusion of this poetical inspiration, something more substantial to the inner man was provided, in which all participated with even more energy than in the previous exercises. In this, however, a Fourth-year needs no encouragement, especially when the food was prepared

by the Superintendent of the Kitchen Laboratory and her corps of efficient assistants.

Other games of amusement took up the hours so rapidly that it was time to retire before anyone was aware, and after a good-night all around, the company dispersed, cherishing in their memory one more event not to be forgotten.

SORGHUM AND SUGAR BEETS.

Bulletin No. 36, just issued, is from the Chemical Department, and is entitled "Experiments with Sorghum and Sugar Beets." Tables are presented giving analyses of varieties of sorghum, the improvement by seed selection of the sorghum experimented with during the past five years, and composition of sorghum in fertilizer trials.

Summary.—We have selected the best varieties of sorghum from several hundred, and are giving most attention to efforts to improve these, principally by seed selection. Most of these best varieties are kinds that have not been grown generally in this country, and some of them are very recent importations.

In general, our sorghum was better this year than ever before. Large samples of variety "208" running to 19.36 per cent of cane sugar and .76 per cent of glucose sugar; Undendebule, 18.71 per cent of cane sugar, and .87 per cent of glucose sugar; Kansas Orange, 17.26 per cent, and 1.12 per cent; cross of Amber and Orange (Colman), 17.33 per cent, and 1.21 per cent; cross of Amber and Orange (not the same as preceding), 17.17 per cent, and 1.04 per cent; "8x," 16.98 per cent, and .68 per cent; Nearly Seedless, 16.18 per cent, and .66 per cent; McLean, 16.34 per cent, and 1.21 per cent; Early Amber, 15.48 per cent, and 1.45 per cent.

The work in seed selection has been in progress five years, and has been attended by a constant improvement in the quality of the sorghum. It is probable that a portion of this improvement is due to acclimatization; but it seems certain that it is partially, possibly mainly, due to seed selection. Many stalks were obtained from these best varieties containing from 18 to 20 per cent of cane sugar and less than 1 per cent of glucose sugar; some as low as one-half of 1 per cent of the latter. The richest stalk of variety "208" contained 20.97 per cent of cane sugar and .53 per cent of glucose sugar; Undendebule, 20.49 per cent of cane sugar and .87 per cent of glucose sugar; cross of Amber and Orange (Colman), 19.33 per cent and .91 per cent of these sugars, respectively; Kansas Orange, 19.26 per cent and .69 per cent; cross of Amber and Orange, 18.95 per cent and .84 per cent; "8x," 18.22 per cent and .70 per cent; Link's Hybrid, 17.88 per cent and .88 per cent. Many other stalks of these varieties were nearly as good as those just given, while other varieties are nearly as high as the lowest of above.

The trial of fertilizers on sorghum has been continued three years on the same plats. Nitrate of soda (Chili saltpeter) is the only one of the common fertilizers whose use has been uniformly attended by increased sugar in the juice. All others show an average loss, although a gain in some years. The excess of the nitrate plats over the "nothing" plats is slight. The experiment will be continued on the same plats.

SUGAR BEETS.

The analyses of beets grown on the Station grounds show almost to a certainty that the soil is not adapted to their growth. Notwithstanding the subsoiling, the most of the beets were of poor form, and grew largely above ground. There is probably too little sand to give the soil a proper texture. In most varieties, the crop this year is better than that of last, owing, perhaps, to a drier fall. They are at best, however, very unsatisfactory. The total beet crop of Germany yields, in the sugar factory, 12 per cent of sugar, implying an average composition appreciably above this.

A comparison of the results on beets sent in last year with those of this year will show that the latter are somewhat better. But, on the whole, they cannot be regarded as lending great encouragement to the hope of successful establishment of the sugar-beet industry in this State. There are, however, a considerable number of samples showing a high percentage of sugar. It is highly probable that these are due to favorable conditions of soil not found in other cases. The plan of distributing seed to the farmers in all parts of the State, without regard to soil, or direct personal interest in the matter on the part of those grow-

ing the beets, cannot be regarded as a success. Less than one-third of those having seed sent in beets. It seems advisable that in the future the growing of samples should be mainly restricted to localities in which our past experience or other means of judgment indicates that success will be most likely to be attained. We shall, however, still be glad to analyze beets, grown in any locality from good seed, and in accordance with approved directions. It is especially desirable that people who desire to test the adaptability of their soil to beet culture should co-operate, and plant a considerable number of plats all over the area in question.

THE HAMILTON ANNUAL.

Promptly at eight o'clock on Saturday evening last the Chapel was filled to its utmost capacity with an expectant audience assembled to witness the Sixth Annual Exhibition of the Hamilton Society. The programme was opened with an overture, by the Hamilton Orchestra. Invocation by President Fairchild. President of the Society W. E. Smith then made a few remarks concerning the Society's history, growth, and objects.

The address, by Edmund C. Abbott, was a strong and effective plea for the advancement of our educational interest, including a retrospective view of its past achievement and a conservative glance at its future possibilities.

A quartette sang a piece entitled "Kanoute," which tended to enliven the exercises, and received a hearty encore.

The discussion on the subject "Should the free delivery of mail be extended to our rural districts?" was ably presented on the affirmative by John A. Scheel and negatively by Isaac Jones, and the many plausible arguments pro and con met the appreciation of the audience.

The quartette then sang "Silent Mead."

The Society paper, the Recorder, was presented by Frank Yeoman, and was a fair sample of the literary work being done in the Society. It was prefaced with an editorial full of wit and to the point.

An oration, "Need We Fear for the Future?" by T. E. Lyon, is worthy of special mention in its thought and the manner of delivery. It showed that every emergency, when right and character were at stake, had been met by a determined people who found in their number a competent leader and adviser.

The impersonation of the College societies called forth much applause and laughter, and was a unique effort on the part of the "play committee."

An oration, "Ad Astra Per Aspera," by J. A. Rokes, was a fitting tribute to our State, and a review of its trials and successes since it was known as the great American Desert to the present time.

On the whole, the exhibition ranks well with what could be expected, and no one went away who was not well pleased and amply repaid for having attended.

TO MAKE FARMING PAY.

It is difficult to make any business pay unless the management is such as to take advantage of the markets and give close attention to details. Farming pays as well as any other occupation, as failures occur in all branches of business. The merchant and the manufacturer are ever on the alert for improvements which reduce expenses, and they are in close competition with hundreds of others. Farming is a business, and the farmer becomes a merchant and a manufacturer whenever he buys certain articles and sells them in some other form.

The whole farm is really a factory, and at no time is there a cessation of the work of conversion of raw materials into salable products. Beginning with the manure heap, in which the plant food is being chemically prepared, the process does not end until the crudest materials are transformed through successive stages into the various products of milk, eggs, meat, and butter. Even the grain and hay are but the substances derived from the plant food. The profit depends on the manner in which the salable articles were produced, for the cost can only be reduced to the minimum by business, and the use of the improvements necessary for competing with others.

The minor details demand the closest supervis-

ion. The waste at each feeding of the animals may be a trifle, but the aggregate is large at the end of the year. When a certain proportion of food is used to produce ten pounds of butter where twenty pounds could as easily have been secured by the use of improved stock, the farmer has doubled the cost of his articles. No merchant or manufacturer would thus conduct business, as he could not compete with his rivals. The farmer, however, vainly attempts to make a business pay by rejecting the best methods at his disposal and condemns his occupation, though the failure is due to causes controlled by him.

Sooner or later circumstances will of themselves force an improvement, but at the expense of heavy sacrifices. The world is progressive, and the farmer must progress also. He bears his losses with hopes of the future, and defers improvement which admits of no delay. He will never succeed with farming by cultivating weeds instead of destroying them, nor in attempting to derive something from the soil without feeding it liberally in order to render it productive. The heaviest sacrifices, however, are made by farmers who will not realize the difference between pure-bred stock and inferior animals, for often failures have occurred where only a slight increase in the farm products would have led to success. Business methods should be practiced on the farm. Keep nothing but the best, produce the best, and aim to realize the greatest amount at the least possible cost.—*Ex.*

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

FOXS BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

R. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc. '75.

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W. C. JOHNSTON, Druggist. A large line of Toilet Articles and Fancy Goods. The patronage of students is solicited.

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A. J. WHITFORD sells Stoves and Hardware at very low prices, and carries a large stock from which selections may be made. Student patronage respectfully invited.

DENTIST.

D. R. G. A. CRISE, Dentist, 321 Poyntz Ave. The preservation of the natural Teeth a specialty.

PHOTOGRAPHS.

DEWY, the photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue.

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MEAT MARKET.

SCHULTZ BROS. offer Fresh and salt Meats in great variety. Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

SHAVING PARLOR.

6 BATHS, \$1.00 cash. 12 shaves, \$1.00, cash. Hair cutting a specialty. All work first-class at Pete Hostrup's Barber Shop, South Second Street.

GENERAL MERCHANDISE

THE SPOT CASH STORE is Headquarters for Dry Goods, Novelties, Boots and Shoes, Hats and Caps, Clothing, and Ladies' Wraps. Lowest prices in the city.

E. B. PURCELL, corner of Poyntz Avenue and Second Street, has the largest stock in Manhattan, of everything wanted by students, consisting in part of House-keeping Goods, School Books, Stationery, Boots and Shoes, Clothing, Hats and Caps, Dry Goods, Groceries, etc., etc. Goods delivered in all parts of the city and at the College, free of charge.

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Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan. All payments of principal and interest on account of bonds or land contracts must be made to the State, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Applications for Farmers' Institutes should be addressed, as early in the season as possible, to the President.

The Experiment Station should be addressed through the Secretary.

RESPECT THE SHADE TREES.

BY PROF. S. C. MASON.

IT is a common occurrence to see a choice shade tree entirely ruined by a horse hitched to it by some one too careless or too lazy to go a few rods farther to find a post. A man who would not steal your lap-robe or buggy whip, if the night were never so dark, will hitch his team to a fine tree where they will do ten dollars' worth of damage in the hour while he attends a social or lecture, and then get fighting mad if the owner of that tree remonstrates, or moves the team to another place. This loose idea of property rights in trees can only be accounted for on one theory. Our fore-fathers chopped their way through the wilderness from the Atlantic to the Mississippi, and then on toward the setting sun till there was nothing left to chop. A generation fell, ax in hand, or went down to the grave wishing that they might be spared to cut one more tree. The generation that took their places learned to wield the ax before they learned to read. Is it possible that this tree-destroying instinct has become inbred like the "pointing" instinct in certain breeds of dogs?

When timber covered the face of the country and the settler cleared away from before his cabin only such trees as his time and energy prompted, it was the most natural thing for the chance caller to tie his horse to the most convenient tree at hand. The setting of a hitching post under those conditions would have been ridiculous. When, on the treeless prairies of Kansas the grounds surrounding a great public institution are planted with trees and shrubs and maintained at the cost of hundreds of dollars, when graveled drive-ways are built where teams should go and ample hitching-rails are provided adjacent to all buildings, it would seem as though the exercise of even a low degree of intelligence would keep a man from hitching his horses to those trees.

Yet there is scarcely a public gathering at the College buildings calling out a large number of teams when this sort of an outrage is not committed, unless prevented by the activity of a special force of men detailed to patrol the grounds. Even then a man will sometimes tie his horse to a convenient tree and escape into the building before the patrol discovers the act. Then, when the exercises are over and the horse is found hitched to a post a little distance away, the owner is usually indignant that the animal should have been disturbed instead of being sorry that he has hitched where damage might result.

A charitable construction placed upon such an act might designate it as carelessness, but when a man deliberately leaves his horse where the chances are that the animal will mar or destroy a shade tree which it would take several dollars' worth of labor and ten years' time to replace, simply because he is too much in a hurry to go a hundred feet farther and find a post, it is well that there should be a law to deal with such carelessness and provide for punishment. It is well to remind such men that there is an enactment making it a misdemeanor to mar or deface any public building or any tree or shrub in the grounds pertaining to such building, and making the necessary provisions for the arrest and punishment of such an offender.

That the Agricultural College, with all its buildings, belongs to the State, there can be no question. That the State is represented by the people who inhabit it, is conceded without a murmur. The visiting public has always been made cordially welcome to all the privileges of the institution, and always will be. Any unpleasantness or encroachment upon the common rights of all has been of

such rare occurrence as to make the disposition of a few in regard to shade trees specially noticeable. It is to be hoped that in the future the temporary convenience of the few may not lead them to damage the common property of the many.

THE BITTER-SWEET OF EXPERIENCE.

BY MARY E. COTRELL, '91.

"He is lacking in experience" is the oft-repeated expression of one who has attained the superior wisdom of maturer years. We need experienced workers, and cannot afford to have any others. This necessity—experience—is felt by all, though there is often a question as to whether, when gained, it is of real value. It is better to take some things for granted, second-hand, than to have personal experience in the matter. Just as one would not wish to have the toothache in order to sympathize with a suffering friend, so one need not desire mishaps as a means of gaining substantial knowledge. Disease and disaster will come soon enough without our going to meet them.

The practical acquaintance with many things, which is to be had in the ordinary routine of home life on the farm, is a result, in part, of the many opportunities for change of employment. For the progressive girl, there is thorough enjoyment in knowing how to do all kinds of work that her brother can do—in being able to do it just as well where her strength and endurance are equal to the task; while her brother betrays satisfaction in being able to compete with her in cooking, sweeping, sewing, and other household duties. Rainy days are less gloomy when she shares with him the dishes, the mending pile, button-holes, or fancy work. And bright, warm, sunshiny days are more delightful when she takes a hand in seeding or weeding, and keeps even in the rows though he may take two to her one, or walk while she rides.

It is a part of the mysteries of this mundane sphere that there are so many hindrances to development. No sooner are seeds sown, vegetables transplanted, or flower beds put in order, than a host of enemies rise up to contest the ground. Squash bugs, rose beetles, cabbage worms, and leafhoppers, with their various tribes and families come prepared to fight it out in their line all summer; for if one of their number should become exhausted another is ready to take his place. Over-abundant moisture or excessive heat are alike discouraging. But after all these things have had their turn and have been conquered, what pleasure there is in sharing the rewards of labor.

The poultry yard has a direct connection with domestic economy on the farm, and here, too, history repeats itself. One would think no enemy so cruel as to injure the pretty, little, fluffy, downy chicks as they run in and out from under their mother's wings, scaring themselves at nothing, infant-like trying to eat everything they can reach, at once a delight and a nuisance. But besides their natural enemies—vermin and disease—mistaken kindness takes many of them from this world of experience before their time. Too much food at one time, too little at another, or not of the right kind, board floors instead of earth, morning dews, or night frosts are convincing proofs that, besides a trust in Providence, one must use common sense in order to have spring chicken on the table or in the market.

Experience indicates that there are reasons why very different results follow from apparently the same cause. Why should the bread be light, sweet, and wholesome at one time, and sour, stiff, and sticky at another? Why, on some days, does the cake batter develop into a thing of beauty with its fine grain, delicate color, and spicy odor,

while on other days out of the oven comes a sad, discouraged-looking mass which should be burned or buried rather than have it tax the digestion of even the pigs?

Sewing surely has its share of mystery. The different ways in which a single garment may be put together and still be wrong each time, would surprise any one but an instructor in the art, and one who has had longer experience in reforming bunglers. There is no royal road to making good button-holes or sightly seams. Nothing will answer the purpose but careful, painstaking work.

It is not experience alone which is profitable, but it is the ability to use that to advantage. And herein is found the benefit of a course at such a school as ours. It is but a step from the farm home to the Agricultural College. And while we do not hope to solve all the mysteries we have found in the past or may find in the future, we shall be better able to deal with them for having been here. What would learning be worth if all things could be mastered in a few years?

AMONG THE GREEN MOUNTAINS OF
VERMONT.

BY D. H. OTIS, '92.

TAKE a person accustomed only to the rolling prairies and small bluffs of Kansas, and allow him to ramble among the Green Mountains of Vermont for a few weeks and he will find much that is attractive and instructive. The visit, we will say, is to be made late in the summer, while the meadows are yet fresh from the recent rains, but the grain is beginning to show its golden luster. Looking out from the car window, we may see on the distant mountain small farms scattered here and there, which, by their division into several patches of different grains and grasses, present a very pleasing picture to the eye. But as our destination is soon reached, we step from the car which has given us only a meager and obstructed view, and are permitted to take in the situation from a different standpoint.

One of the first impressions that forces itself upon a person from the western plains is the thought that he is placed in an immense cave surrounded on all sides by mountains, and apparently with no way of escape. We next take the carriage and drive through the woods, where we obtain a cool, refreshing breeze, doubly acceptable on a hot summer's day. The roads over which we travel are of such a gravelly nature and so readily drained that the people in many parts of the country are troubled with neither mud nor dust. The brooks along the roadside are special objects of admiration. The pure, sparkling water, as it dashes over the many stones that lie in its way, presents a very marked contrast to the muddy streams of the Mississippi Valley. As the water rushes on, it affords excellent water-power, which is extensively used to carry on the lumbering and marble industries.

But to obtain a good view of the mountains—for that is one of the principal attractions—we must emerge from the woods and select a suitable place for the purpose. Rising early in the morning and taking a hasty look before the sun is yet up, we at once think of an immense black cloud and are ready to shudder at the thought of a Kansas thunder-storm. But as the sun rises and the fog clears away we find that the cloud is simply a range of mountains that are remarkable not only for the beautiful farms that cover a portion of their surface, but for the many varieties of trees implanted in their soil. Especially is this true in the fall of the year when the leaves begin to color, and as there are different varieties of trees so there are different shades of color, and we are confronted with a sight that words do not easily portray. A person may, by description and picture, imagine a great deal as to the character

of the scene, but to comprehend its true grandeur and beauty he must witness the reality upon the whole, the country is a very rough one, and as a result the farms are necessarily small and devoted largely to the dairy interest: hence the existence of a large number of cheese factories.

In all probability this section of our country would never have been developed had the western portion of our continent been discovered first; only for the reason that it requires so much labor to bring it under cultivation, and the extra care necessary to keep from exhausting the soil when once cultivated. On account of the greater demand for lumber, there is plenty of land there today that would be worth several times its present value could it contain the fine forests that were once cut down and burnt merely to clear the land.

Turning now to another phase of the subject, we must remember that a visit to the Green Mountains is not complete until we partake of the pure Vermont maple syrup—not the syrup we buy here, where in most cases the genuine is found simply in the letters on the outside of the can, but the unadulterated maple sap boiled down to the right consistency. The maple sugar must also be mentioned as a rare treat equal to that of the syrup. The butternuts and English walnuts that are often mixed with the sugar add much to its flavor, and sometimes add to the agony of the person when he continues to eat and eat long after nature has warned him to stop.

It is indeed a country noted for its beauty, its grandeur, its capacity to satisfy the appetite, and above all, for its many good-hearted, intelligent people who make you feel at home wherever you go.

And yet a person accustomed to the West does not become dissatisfied with his own home. He simply returns with a feeling of satisfaction at having seen with his own eyes what he has so often heard spoken of by others, and as he looks back his mind is filled with many brilliant pictures and pleasant recollections.

SUB-EXPERIMENT STATIONS.

There have been frequent demands for the establishment of experiment stations in various parts of the State, and particularly in the western counties. It is claimed, and it is true, that the conditions of agriculture, even in the central counties, are so different from those at Manhattan that methods which give good results at the College Experiment Station are entirely inapplicable over a large portion of the State. At the last meeting of the State Board of Agriculture a resolution was adopted asking that one or more sub-stations of the State Experiment Station be established in Western Kansas.

It was not developed, in the discussion of this resolution, whether the purpose was to ask the division of the Station and force, or that comparatively complete sub-stations be established without reducing the efficiency of the great Station at Manhattan. If it is desired that certain investigations be made as to special subjects, it is probable that this can be done without weakening the Station, which is now doing such good work in the general field.

There is nothing to prevent the College from taking up any investigation in any part of the State and testing experimentally any question that is worthy of the necessary expenditures. This has been done as to sugar beets in many localities, and if this plant has not been tried in every part of the State where there is a probability that it will succeed, it is simply for lack of application from that locality.

No doubt the money of the College available for experimental work is inadequate to the great amount that needs to be done. But if the Legislature desires to make other and further provision for sub-station work, it may well place at the disposal of the College Station such amount as is deemed necessary for this work, providing that on proper application from institutes or other farmer organ-

izations, setting forth the work and the reasons why it should be undertaken, the Director of the College Station shall investigate, and if satisfied that such experimental work should be undertaken, shall cause it to be done under supervision of the proper experts and as a part of the investigations of the College Station—*Kansas Farmer*.

FARM NOTES FROM VARIOUS SOURCES.

Work the mind as well as the hands.

How many of you study your farms?—*Hon. J. M. Hubbard*.

It is yet true that men love darkness rather than light, and the average farmer and dairyman is no exception.—*L. F. Abbott*.

Farming is not a rapid money-making business, but when all the qualifications are united in the head of the establishment, it is pretty sure business, however.—*Judge W. B. Sutton*.

The crying need in Kansas cornfields is not cultivators that will cover more ground, but farmers who manipulate the machines we now have with a little more energy and judgment.—*Kansas Capital*.

If I wanted to formulate a plan to make a poor man for life, it would be,—work early and late, utilizing every moment at hard, unceasing toil with the hands, and never stop to think or read the thoughts of others.—*R. M. Kellogg*.

The success of any system of farming in which live stock forms the central figure is based on the manure pile. The character of it, its amount and the cost of getting it to the fields decide the kind and quality of farming that may be practiced.

True economy consists in marshalling every force that shall contribute to the success of an undertaking. No man is economical who saves money by missing the good things published in agricultural and horticultural papers.—*Our Grange Homes*.

On many farms the only excuse for fences is that of making pasture part of the crop rotation. Happily many of our best farmers are abandoning the practice of pasturing plowlands and doing away with all internal fences, and some are going so far as to remove roadside fences too.—*Our Grange Homes*.

Secretary Mohler, of the Kansas State Board of Agriculture, says: "I state a fact of which I have personal knowledge, that in the same neighborhood, and under exactly the same weather and soil conditions, one farmer has a yield of forty bushels of corn per acre, while his neighbor has less than fifteen bushels, the difference in the result being wholly due to a difference in farming."

HAS YOUR FARM A NAME?

What is the financial value of an attractive name for a farm? The bestowal of distinguishing names is becoming somewhat general; why not give sufficient thought and deliberation to the selection of pleasing and, where practicable, characteristic ones? Does not such a designation help to make the pleasant associations of a place more lasting? Then, again, the owner of Brookside, The Oaks, Elmswood, or Hillview, can hardly be looked upon as a common farmer. Moreover, such a name is a conscious or unconscious stimulus to the owner's best efforts to improve and beautify the farm, and take precautions that its products shall be first-class, and leave it only in first-rate shape. Then, if the goods are stamped with the name of the place, hasn't it a commercial value once its reputation is established? Let there be more distinguishing names for farms, and they then will be always attractive and characteristic.—*Field and Farm*.

Farmers and bicyclists should be good friends. The hump-backed young man with knickerbockers, curving himself like a watch spring over the handle bar of his wheel, is not a handsome picture on the landscape; but if his lungs are compressed his voice is loud, and if he does frighten the horses he is a power for the improvement of the country. The present agitation for better roads was started by the bicyclist. His cry was taken up; everybody heard it and joined in the shout. The result will no doubt be improved roads in the country all over the United States, and therefore the farmer should always have a little brown jug ready for the thirsty bicycle crank when he alights perspiring and thirsty at the door.—*Field and Farm*.

CALENDAR.

1892-93.

Fall Term—September 15th to December 23rd.
 Winter Term—January 9th to March 31st.
 Spring Term—April 3rd to June 14th.
 June 14th, Commencement.
 1893-94.
 Fall Term—September 14th to December 22nd.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan., at once.

LOCAL MATTERS.

Sickness keeps a number of students from classes.

The four-months' old babe of Mr. and Mrs. Frank Davis, Janitor, which has been ill for the past week, died early this morning.

Col. Albert Pope, the recognized leader in the good-road movements, sends the library a bunch of pamphlets on road making and legislation.

Rev. J. E. Platt called on College friends Wednesday morning before leaving for the western part of the State to continue his evangelistic work.

The Term Social will be held on Tuesday evening, February 21st, and there will be no exercises at College the following day—Washington's birthday.

The *Congressional Record* of the first session of the Fifty-second Congress, consisting of nine volumes, is received by the Library, by courtesy of Congressman Davis.

The Department of Industrial Art has just received fifteen plaster Paris casts illustrating various architectural details. Nine of the twenty-four patent drawing tables recently ordered are at hand, and the others are expected soon.

The Fourth-year Class, forty in number, will by vote of the Faculty all appear before the public in orations on Commencement Day, even though the arrangement makes necessary two sessions of the graduating exercises.

The sad news came this week that Mrs. Gale, wife of Prof. E. Gale, and mother of Geo. A. Gale and Ella Gale-Kedzie, both of the Class of '76, died suddenly on Thursday, February 9th, at Lake Worth, Florida. No particulars as yet.

Mr. H. A. Heath gave on Wednesday evening a most interesting address upon the Sheep Industry of the West. Few who heard him had any idea how extensive the industry is already; but all were shown that abundant room is found for growth upon ordinary farms in mixed husbandry.

The address of Hon. F. D. Coburn last evening in the Shorter Course for Farmers was given in the College Chapel to over two hundred listeners, who learned more "Facts, Fictions, and Fancies about the Hog" than were ever before blended in an entertaining lecture. Those who heard will not soon forget the impression received that the Kansas hog is the great profit-maker for the Kansas farmer.

Bulletin No. 36 is accompanied by the following notice, and the names of those not sufficiently interested to respond will be dropped from the mailing lists: "For the purpose of revising our list of correspondents, you are requested to acknowledge the receipt of Bulletin No. 36 by postal card, or otherwise, at once. Only names of persons so acknowledging will be placed upon the lists for later publications of this Station."

Prof. White presented a highly entertaining lecture on "Universal Education" in Chapel yesterday afternoon. While at present six-sevenths of the people never get more than a common-school education, the speaker thought that, by aid of a constantly improving press, the chautauqua movement, university extension, public libraries, cheap yet good books and newspapers, and other agencies, universal education was among the probabilities.

At a called meeting of the Board of Regents on Tuesday afternoon, February 14th, all the members were present. Several forfeited contracts were renewed by acceptance of special terms of payment, and earnest consideration was given to the condition of finances while awaiting the release of the nearly \$40,000 held by the State Treasurer. A few minor details were provided

for, and matters of legislation were referred with directions to the Committee. Regents Forsyth, Wheeler, and Fairchild were made a committee to secure the annual address of Commencement week. The next meeting was fixed for the first Tuesday in April.

In the Riley County Teachers' Association at Randolph, on March 4th, a number of graduates and former students will take part. Nellie P. Little, '90, will read a paper entitled "Stories for Little Folks;" H. N. Whitford, '90, will talk of "Science in the Common School;" A. D. Rice, '92, will treat "The Immigration Question;" Jessie M. Stearns, Third-year in 1891-2, will deal with "The Life and Works of My Favorite Author;" Laura Living, student in 1889-90, will read a paper. Prof. White's lecture on "Universal Education" is announced for 7:30 in the evening.

GRADUATES AND STUDENTS.

W. S. Pope, '92, is in Los Angeles, California.

E. A. Clark, Second-year in 1891-2, is teaching at Lanham, Neb.

J. B. Sutton, of Russell, Second-year in 1890-91, is attending the lecture course.

Eusebia Mudge, Fourth-year, entertained a number of her friends at a birthday party last evening.

Ben Skinner, '91, writes from Fairview of an entertaining and successful lecture course in connection with his school.

G. J. VanZile, '89, has determined to become an agriculturist, and is now preparing for spring work on the home farm near Carthage, Illinois.

M. and B. Kirkpatrick, in First-year and Second-year classes respectively, will attend the marriage of their brother at Fredonia on February 22nd.

Mr. W. K. Eckman, '79, now a prosperous lumber dealer in Longview, Texas, spent a few hours on Monday calling on old friends in the Faculty.

Nellie C. Palmer, in First-year classes, was called to her home in Havensville on Friday of last week, by a telegram announcing the illness of her sister.

M. V. Hester, Third-year in 1892, whose paper before the Kiowa County Teachers' Association is highly praised by the *Signal*, is breaking 150 acres of sod this spring.

Geo. Forsyth, Third-year, finds it necessary to go home on account of sickness. He left College on Friday of last week, and was accompanied as far as Topeka by T. H. Coman, First-year.

Mattie Toothaker, who has been absent from Third-year classes for two weeks on account of sickness, has so far recovered that she was able to go home yesterday, to return no more this year.

B. M. Brown, Second-year student, had the misfortune to break his right leg just above the ankle while performing on the rings in the gymnasium on Monday morning. The fracture is confined to the tibia, and the physician thinks the young man may be able to get about on crutches in two weeks.

COLUMBIAN HISTORY OF THE KANSAS STATE AGRICULTURAL COLLEGE.

The Kansas State Agricultural College has through Prof. J. D. Walters, contributed its quota to the great collection of Columbian literature in a book of 76 pages, entitled "Columbian History of the Kansas State Agricultural College."

The volume is a record of progress. Beginning with the founding of Blueumont Central College in 1858, the trials and triumphs of the institution are recited in detail; and one not familiar with the facts (few are) may here learn something of the trying experiences of the College and the noble work of its friends throughout the troublous periods of the 'sixties and 'seventies.

Prof. Walters' long experience as a teacher in this College, his personal acquaintance with the men named in the volume, his persistent efforts for eight years past in collecting data, his powers of observation, and a good memory specially fit him to be author of such a work, and it could not have been entrusted to better hands.

What the author intended the history to be will be better understood by the perusal of the preface, which is reproduced entire:—

"On February 19, 1893, it will be thirty years since the Kansas State Agricultural College was founded and located. For a new State, and one that made history as fast as the trans-Missourian countries did, this is a long period. Many of the men to whose energy the people of Kansas owe this magnificent institution of learning—the largest agricultural school in the world—have left to conquer other Territories, some have followed more remunerative or attractive callings than that of the educator of farmers' sons and farmers' daughters, and many have died. The close of the century may find but few of the pioneers in health and vigor. If a history including the valuable element of personal recollection was to be written, the work could not be deferred much longer.

"The author believes that the facts related in this history are sufficient to give those who may interest themselves in the College a fairly complete and entirely truthful picture of its development and growth; more than this is not intended. An active participation for over sixteen years in the work of the Faculty as one of its members, a persistent effort for over half of this time to obtain the necessary data, and a personal acquaintance with nearly all the men named, ought to give some weight to statements that may conflict with other versions or views."

THE SHORT LECTURE COURSE.

The Short Course of Lectures opened on Tuesday last with a fair attendance—as large, probably, as could be expected under the circumstances. The thirty to forty farmers present express themselves as being richly repaid for time and money expended, and regret that more agriculturists did not avail themselves of the opportunity offered in helps to progressive farming.

The lectures continue through next week under the following revised programme:—

MONDAY, FEBRUARY 18.

10:30—Grape Culture, Prof. Mason
 1:30—Common Agricultural Fungous Pests, and Their Treatment, Prof. Hitchcock
 3:00—Taxation, Prof. White

TUESDAY, FEBRUARY 19.

10:30—Special Insect Pests of the Garden, Prof. Popeno
 1:30—Judging Horses, Dr. Mayo
 3:00—Economic Production and Use of Energy on the Farm, Prof. Hood

WEDNESDAY, FEBRUARY 20.

10:30—Dissemination of Plants, Prof. Hitchcock
 1:30—Feeding, and Feeding Stuffs, Prof. Failyer
 3:00—Milk, Butter, and Cheese, Prof. Willard
 7:30—Division of Labor on the Farm, Pres. Fairchild

THURSDAY, FEBRUARY 21.

10:30—Preservation of Foods, Mrs. Kedzie
 1:30—Useful and Noxious Birds, Prof. Lantz
 3:00—Home Grounds, Prof. Walters
 7:30—The Dairy, Hon. Geo. Morgan

FRIDAY, FEBRUARY 22.

10:30—The Apple Orchard, Judge F. Wellhouse
 1:30—The Balanced Ration, Mr. P. S. Creager
 3:00—Special Insect Pests of the Orchard, Prof. Popeno

SATURDAY, FEBRUARY 23.

9:00—Soils, and Their Improvement, Prof. Failyer
 10:30—The Cattle Industry, Hon. T. M. Potter

Following each lecture an opportunity will be given for a general discussion of the facts presented.

The Library and Reading Rooms of the College, and its Museums, Laboratory, Greenhouses, Barns, and Classrooms are open during the day, and all are especially invited to visit them.

COLLEGE ORGANIZATIONS.

Student Editors.—M. F. Hulett, Edith McDowell, C. H. Thompson.

Young Men's Christian Association.—President, J. E. Thackrey; Vice-President, J. B. Thoburn; Recording Secretary, G. L. Melton; Corresponding Secretary, M. F. Hulett; Treasurer, E. J. Hartzler. Meets every Sunday at 3 o'clock P. M. in Horticultural Hall.

Scientific Club.—President, J. T. Willard; Vice-President, A. S. Hitchcock; Committee on Programs, J. T. Willard, ex officio; E. R. Nichols, A. S. Hitchcock; Secretary, Marie B. Senn; Treasurer, F. A. Marlatt. Meets on second and fourth Friday evenings of each month, in the Chemical Laboratory. Admits to membership advanced students and College officers.

Webster Society.—President, M. F. Hulett; Vice-President, C. F. Ptuetz; Recording Secretary, J. M. Williams; Corresponding Secretary, J. Stingley; Treasurer, E. G. Gibson; Critic, M. W. McCrea; Marshal, G. A. Dean, Board of Directors, G. W. Smith, H. G. Pepe, J. V. Patten, C. E. Shoup, C. S. Millburn. Meets every Saturday evening. Admits to membership gentlemen only.

Alpha Beta Society.—President, C. H. Thompson; Vice-President, Fred Hulse; Recording Secretary, Onie Hulett; Corresponding Secretary, Jennie Smith; Treasurer, A. E. Ridenour; Critic, Ivy F. Harner; Marshal, W. S. Trader; Board of Directors, C. H. Thompson, J. E. Thackrey, W. O. Lyon, Stella Kimball, Sadie Moore, C. M. Morgan, Onie Hulett. Meets Friday afternoon at 2:30 o'clock. Admits to membership both ladies and gentlemen.

Hamilton Society.—President, W. E. Smith; Vice-President, W. J. Yeoman; Recording Secretary, W. H. Painter; Corresponding Secretary.

ponding Secretary, W. E. Hardy; Treasurer, R. K. Farrar; Critic, J. A. Rokes; Marshal, W. E. Phillips; Board of Directors, A. L. Melton, H. L. Pellet, I. Jones, C. D. Adams, B. M. Brown. Meets on Saturday evenings. Admits to membership gentlemen only.

Ionian Society.—President, Nora Newell; Vice-President, Kate Pierce; Recording Secretary, Margaretha Horn; Corresponding Secretary, Flora Day; Treasurer, Ida Pape; Marshal, Laura Day; Critic, Maude Knickerbocker; Board of Directors, Margaretha Horn, Mary Lyman, Olive Wilson. Meets Friday afternoon at 2:30 o'clock. Admits to membership ladies only.

February 10th.

The Ionian Society was called to order by President Newell. After singing, devotion, and roll-call, Miss Stingley was initiated. The programme was opened by an instrumental solo by Miss Crump. Miss Huber then presented a book review. Miss Corbett read an interesting number of the Oracle with the motto, "Beauty Unadorned." Miss Marie Haulenbeck sang "Dear Heart," Miss Gertrude Haulenbeck at the piano, and was encored, responding with "Mamma Didn't Teach Me That." Miss Minis gave a reading, followed by a discussion by Laura Day. Miss Staley recited "Lister and I." Miss Helder sang a solo, "In Silence and in Tears," Miss Crump playing the accompaniment. After business, assignment of duties, report of critic, and roll-call with quotations, the Society adjourned.

F. D.

February 10th.

At half past two the Alpha Beta society was called to order by President Thompson. Music by members of the mandolin club, Messrs. Baxter, Irving, Lyman and Trader. Mr. Thackrey led the Society in devotion. A declamation was delivered by Sadie Moore. George O'Neill read an essay entitled, "The Discovery of America." Debate on the question, "Resolved, that from the standpoint of present good, moral training is more necessary than mental," was affirmed by M. A. Limbocker and F. L. Kinsey and denied by Ivy Harner and Mr. Longnecker. The judges, Misses Moore, Gardiner, and Halstead, decided unanimously in favor of the negative. The Gleaner by the third division was read by C. C. Smith. Recess. Among the several items of miscellaneous business was the trial of Miss Halstead for non-performance of duty. The lady was found not guilty. Assignment of duties. Report of critic and general criticisms. Reading of the minutes. Adjournment.

J. S.

February 11th.

At 7:30 President Hulett called the Webster Society to order, and after the opening exercises, one of the best programmes of this term was presented. First came the debate upon the live question, "Resolved, that the Populists were not justified in organizing the House of Representatives." The affirmative was ably presented by C. A. Kimball and S. H. Creager and the negative by A. E. Niemoller and B. F. S. Royer. Each side brought forth ponderous law books to prove their assertions. Mr. Kimball opened the debate with an excellent speech, in which he scored the unlawful actions of the Populists at Topeka, and cited parallel cases to show that the Populists, who claim themselves superior to the law, had no right to use the forcible means that they did, in which they brought the Legislature into a tangle that has been the derision of eastern papers and the indignation of Kansas citizens of all parties. Mr. Niemoller then took the floor and he, too, cited parallel cases to prove his side, and tried his best to disprove the arguments of the former speaker. He defends the characters of the Populists, and claims that they were seated lawfully. Next Mr. Creager in his speech took the former speaker's parallel cases and proved the gentleman's conclusions to be wrong and that they did not apply to the Populists. He said that the Republicans and Democrats had organized the lawful house, and that the Populists were wrong. Mr. Royer next defends the course of the Populists and states that they having a majority had organized the true House. The judges, who were one for each party, decided unanimously in favor of the affirmative. L. W. Hayes next presented a good declamation. Then Mr. Trembly read an interesting essay. Mr. Poston gave a declamation that held the strict attention of the audience. G. M. Dick, in his humorous select reading, pleased the Society immensely. Excellent music was next given by Messrs. Lyon and Bailey, and they received a hearty encore. Mr. Ames, in his capacity as editor of the Reporter, gave an excellent number of the paper. Under the head of new and unfinished business, many topics of interest were brought up, and the members were deeply interested in the question of getting Cleveland's picture to hang on the wall, when in came the Janitor, and imitating the example he had set at the Hamilton Annual, turned out the lights, and of course we had to adjourn in the dark.

H. G. P.

Sec. Pro tem.

February 11th.

The Hamiltons were called to order once more by Pres. Smith. After roll call, R. K. Farrar led the Society in prayer. The minutes of the last meeting were read and adopted. J. Garrett opened the program by delivering a declamation. Indeed, you would be a sober creature if you could not laugh at Frank Cheadle's essay on "The Infant Bovine." The question for debate was "Shall we deprive the negro of the right of suffrage?" Hutchings and Ridenour argued the affirmative, while Jones and Peter argued the negative. The affirmative thought that the negro was not capable of voting intelligently, for the reason that he has not had the chance to be educated. The intelligence of all people depends upon their surroundings, and man particularly upon his home. Well-furnished homes mean intelligent thinkers, and hence intelligent voters. To the negro, as a general thing, home means a place to eat and sleep. Although the affirmative did not doubt that the day will soon be at hand when the negro will be quite equal to the white man, yet today the number of intelligent negroes is small compared with the number of intelligent white men. By not allowing the negro to vote, we could stop the bribery that is done each year at the elections. In the South this is carried so far that but a very few negroes vote according to their own ideas. The negative argued that before the war one-third of the free negroes were educated; and since they have enjoyed the advantages of a good education and have actually got rid of thirty percent of their ignorance. The negative admitted that a great deal of bribery was done in the South, but they thought this was necessary in order that the people could have any representation in Congress at all. The people of the South are different from those of the North, and naturally the laws that might be highly satisfactory to the North would be very embarrassing to the South. The negative thought that there were many white men that could be bribed too, just the same as the negro. They further argued that there is no legal way in which the negro can be deprived of the

right of suffrage. The negro so enjoys any right that to deprive him of the right of suffrage would have a degrading effect upon him; then the "negro problem" would be an important issue of the day. The negative, in closing, thought that it would be much wiser to allow the negro the right of suffrage than to allow it to the low, ignorant, lazy, and shiftless foreigners which abound in our cities. The Judges, F. J. Smith, R. K. Farrar, and O. R. Smith, decided unanimously in favor of the negative. Judging from the amount of music, C. A. Bailey was well filled with it, for he had to make his third appearance before the Society would allow him to rest. At first he played on the violin, with C. D. Leslie at the organ; then on his horn in the Society band; and lastly on his mandolin accompanied by T. E. Lyon with his guitar. M. C. Findley presented the news of the week. After a ten minutes' recess, C. D. Leslie, with Mr. Mercer at the piano, played a piece of music on his violin. W. J. Yeoman had for the motto of the Recorder "Blessed is He that Receiveth Nothing, for He Shall not be Deceived." Some of the pieces were, "Horticulture of the Intellect," "The Winter Vacation," "An Open Letter," "It Sounds Reasonable," "How it Happened," J. W. Holland gave a well-prepared discussion on "Self-conceit." After business, we adjourned.

W. E. H.

THE ROAD QUESTION.

THE FARMER AND GOOD ROADS.

The farmers must be thoroughly aroused before good roads on an extended scale will be possible. It should not be difficult to get them to acknowledge what many of their number know already, that good roads would reduce the number of draft animals required, immensely lessen the present wear and tear of their rolling-stock, enable them to forward their produce to market at any and all times of the year, including those when the ground is too much loaded with moisture to permit work in the fields, and vastly conduce to comfort and contentment by the greater facilities afforded for attending meetings in church or schoolhouse and the neighborly gatherings in the domicile, which tend so much to lighten the burden of solitude where good roads render these practicable.

Good roads do not annihilate distance, but they lessen it. They bring the farm nearer to the city, and this adds to the value of every acre in the farm by increasing the effectiveness of labor, and the attractiveness of the neighborhood to others who may be thus induced to settle there and help to build up a thriving community. Good roads would materially reduce the temptation which makes so many of the younger ones desert the farm for the city, by abolishing the one great grievance of which they complain. In all these respects they have proved worth more than they cost to those communities which have been wise enough to construct them, and the same rule must apply to others who learn road wisdom more tardily than the first have done. When the farmer comes to look on good roads in his vicinity in the same light that he does a building on the farm or a fence around it, as a permanent addition to comfort and value, he will be willing to pay for the one as for the others. Then the problem will be solved. —*Chicago Tribune*.

SOME OF THE EFFECTS OF GOOD ROADS.

By good roads it is a small matter for a farmer to deposit his produce daily in the market, a few minutes' drive. The citizen's table is supplied with products from the dairy and fields as fresh as his. Little children have their morning milk from the cow, to the neglect of pump and apothecary, and with considerable saving of funeral expenses. Multiplied attractions of prosperous, healthy homes, draw the citizen to the country. He can reach his place of business as soon with the horse from his suburban residence, as on foot or by the car in town. The good roads make the town library, the evening lecture, available to the out of town population. It gives new interest and attractiveness to summer resorts near by. Riding, driving for pleasure becomes possible, affording a delightful airing and healthful exercise. As finer residences appear, new motives are brought to bear on roadside improvement. Unsightly weeds are cleared away, and their seed-distributing offices ends. Hedges will be subdued and kept in order. The appearance of the country lends a charm to the view, and gives increase of value to the acre.—*Good Roads*.

The *Hesperian* says: "The student will be fully represented at the World's Fair. He will act as a guide; he will sing; he will play foot-ball; he will probably engage in boat races; and to make the occasion characteristic, he will go home from Chicago broke. The most tempting offer that we have yet seen, however, is the opportunity to roll invalids, cranks, and old maids about the grounds on patent chairs."

LABOR AND EARNINGS.

Every encouragement is given to habits of daily manual labor during the College course. Only one hour of daily practice in the industrial departments is required; but students are encouraged to make use of other opportunities for adding to their abilities and means.

All labor at the College is under the direction of the Superintendents of the departments, and offers opportunity for increasing skill and efficiency. In regular weekly statements, the students are required to observe business forms and principles, showing from their daily account when and where the work was performed.

The shops and offices are opened afternoons and Saturdays for the accommodation of skilled students in work for their own advantage. Everywhere the student who works wins respect; and it is a matter of pride to earn one's way as far as possible.

The labor of the students in the industrial departments is principally a part of their education, and is not paid for unless the student is employed—outside of required hours of labor—upon work for the profit of the College. Students are so employed upon the farm, in the gardens or the shops, and about the buildings. The labor is paid for at rates varying with services rendered, from eight to ten cents an hour. The Superintendents strive to adjust their work to the necessities of students, and give them the preference in all tasks suitable for their employment. So far as practicable, the work of the shops and offices is turned to account for their benefit; and the increasing extent of the grounds and sample gardens brings more of such labor. The monthly pay-roll for the past year ranges from \$250 to \$400.

Many students obtain work in the city or upon neighboring farms, and so pay part of their expenses. In these ways a few students are able to earn their way through College. The amount so earned will vary according to the tact and zeal of the student. The majority must expect to provide by earnings outside of term time, or from other sources, for the larger part of their expenses. The long summer vacation of three months offers opportunity for farm or other remunerative labor; and no one need despair of gaining an education if he has the ability to use his chances well.

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc. '75.

VARNEY'S BOOKSTORE.—Popular Headquarters for College Text-Books and Supplies. Second-Hand Books often as good as new. Call when down town. Always glad to see you.

DRY GOODS.

E. A. WHARTON'S is the most popular Dry Goods Store in Manhattan. The greatest stock, the very latest style, the most popular prices. Always pleased to show goods.

CLOTHING.

ELLIOT & GARRETSON, Clothiers and Furnishers, invite students and all other College people to call and examine their large stock of new goods. All the desirable things in men's wear. Latest styles in every department.

WATCHES, JEWELRY.

J. A. SHELDON, "the Jeweler." Established in 1867. Watches, Clocks, and Jewelry repaired. Eames Block.

R. E. LOFINCK keeps a big stock of Watches, Clocks, Jewelry, and Gold Spectacles, also Musical Instruments. '75.

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DRUGS.

W. C. JOHNSTON, Druggist. A large line of Toilet Articles and Fancy Goods. The patronage of students is solicited.

HARDWARE.

A. J. WHITFORD sells Stoves and Hardware at very low prices, and carries a large stock from which selections may be made. Student patronage respectfully invited.

DENTIST.

D. R. G. A. CRISE, Dentist, 321 Poyntz Ave. The preservation of the natural Teeth a Specialty.

PHOTOGRAPHS.

D. DEWEY, the photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue.

LIVERY.

PICKETT'S NEW LIVERY STABLE.—Everything new and strictly first-class, special attention will be given to student trade. Prices that will suit you. Stable three doors east of Commercial Hotel.

MEAT MARKET.

SCHULTZ BROS. offer Fresh and salt Meats in great variety. Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

SHAVING PARLOR.

6 BATHS, \$1.00 cash. 12 shaves, \$1.00, cash. Hair cutting a specialty. All work first-class at Pete Hostrup's Barber Shop, South Second Street.

GENERAL MERCHANDISE

THE SPOT CASH STORE is Headquarters for Dry Goods, Novelties, Boots and Shoes, Hats and Caps, Clothing, and Ladies' Wraps. Lowest prices in the city.

E. B. PURCELL, corner of Poyntz Avenue and Second Street, has the largest stock in Manhattan, of everything wanted by students, consisting in part of House-keeping Goods, School Books, Stationery, Boots and Shoes, Clothing, Hats and Caps, Dry Goods, Groceries, etc., etc. Goods delivered in all parts of the city and at the College, free of charge.

THE INDUSTRIALIST.

VOLUME XVII'

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COLLEGE BUSINESS.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Applications for Farmers' Institutes should be addressed, as early in the season as possible, to the President.

The Experiment Station should be addressed through the Secretary.

NEEDS OF THE STATE AGRICULTURAL COLLEGE.

THE friends of the College in Legislature and out will be glad to have a statement of the urgent needs of the College. It must be remembered that little has been done for the growth of the College for the past ten years. All told, appropriations have amounted to less than ten thousand dollars a year for the past twenty-nine years. No other institution in the land has done as much work for the money expended, and none has now a better standing among the Agricultural Colleges of the world for meeting the needs of the people.

Bills are now pending in the Legislature concerning the following important provisions for maintenance and growth:

1893. First: Provision for payment of the income from endowment. This has accumulated for sixteen months, and is needed at once. A separate bill from the general appropriation bill must provide for this payment. Second: Refunding, as required by law, incidental expenses in care of funds from July 1st, 1890, to June 30th, 1892, \$172.75. This explains itself, except that the law referred to is the Act of Congress of 1862, giving the land. Third: For deficiency in general repair fund, \$500. This is made absolutely necessary, because of the storm of last spring breaking 2200 lights of glass, and costing over \$400 at once.

1893-4. For general repairs on buildings, plumbing, and steam fitting, \$1500. This ought not to be reduced a cent. It is too little rather than too great. We have ten buildings of various dimensions, and have been scrimped in the past. Second: For piggery and breeding pens, \$1000. This should be of stone, ten pens, with attached yards, and a storage loft, so that the amount is none too great. We have no sufficient provision now for the breeding of swine or sheep. If this is built, we can use the old shed of a piggery for a sheep cote during the next two years. Third: For annual water supply, \$500. As we measure the water, we use only so much of this as is necessary. In case of severe dry weather, we need it all. For salary of Loan Commissioner, \$300. The last Legislature reduced this to two hundred dollars, but the amount asked for is little enough. This must be paid by the State, under the Act of Congress of 1862. Fifth: For construction of Library and Agricultural Science Hall, fire proof, \$40,000. This building is very much needed, for the preservation of the Library, and for the classrooms and laboratories in botany, entomology, and zoology, as well as the general museum. The Library is now crowded into very limited space, with practically no room for the students. It cannot grow, and cannot be used to any advantage where it is. The botanical and zoological work is now crowded in with the veterinary science and physiology, upon the second floor of the old barn. We need all that space for the Veterinary Science Department in order to meet the wants of the farmers. We also need the extra room for classes. The Museum and Societies, an essential part of the means of instruction, must be in connection with these departments. We ask in the next two years, for construction and completion of a building which shall accommodate the Library and Agricultural Science Departments, with the necessary cases, book racks, steam fixtures, and plumbing, \$75,000. This is considerably less than is used by the State University for a library alone, and a little over half as much as the Nebraska University devotes to library alone. To build anything less substantial

and roomy would be a waste of the people's money; and to wait any longer would be to waste the funds provided by the United States grant and appropriations. It must be remembered that not one cent coming from the land grant or the Act of Congress in 1890 can be used in any way, shape, or manner, for buildings, or even for insurance. The State has agreed to provide the buildings necessary for proper use of the funds provided by Congress. Sixth: For general steam plant for heat and power, \$14,000. The buildings are now heated by separate and insufficient boilers, some of which are already worn out, and others are likely to give way any day. The present plan is not absolutely safe, and is too costly in the amount of attendance required, so that it seems necessary at once to ask for this concentration of all the heating apparatus in one place. It is also necessary to provide additional heat and power to meet the growth of the College. A careful estimate places the cost of building and plant, with connections, using the present apparatus in the buildings, at the sum named above.

1894-5. First: For general repairs in ten buildings with plumbing and steam fitting, \$1,500. Second: For completion of Library and Agricultural Science Hall, with cases, shelving, steam fitting, plumbing, and fixtures, \$35,000. Third: For construction of farm house needed to secure the presence of help near the stock and experimental fields at all times of day and night, \$2500. Fourth: For construction of dairy house which we have the means to equip, \$2000. Fifth: For annual water supply, \$500. Sixth: For salary of Loan Commissioner, \$300.

The dairy house is urgently asked for by the State Dairy Association, and will be put to excellent use by the time it is built. The State is making rapid progress in this direction, and will be ready for a dairy school to be useful within the next two years. The other matters are evident wants for the current year.

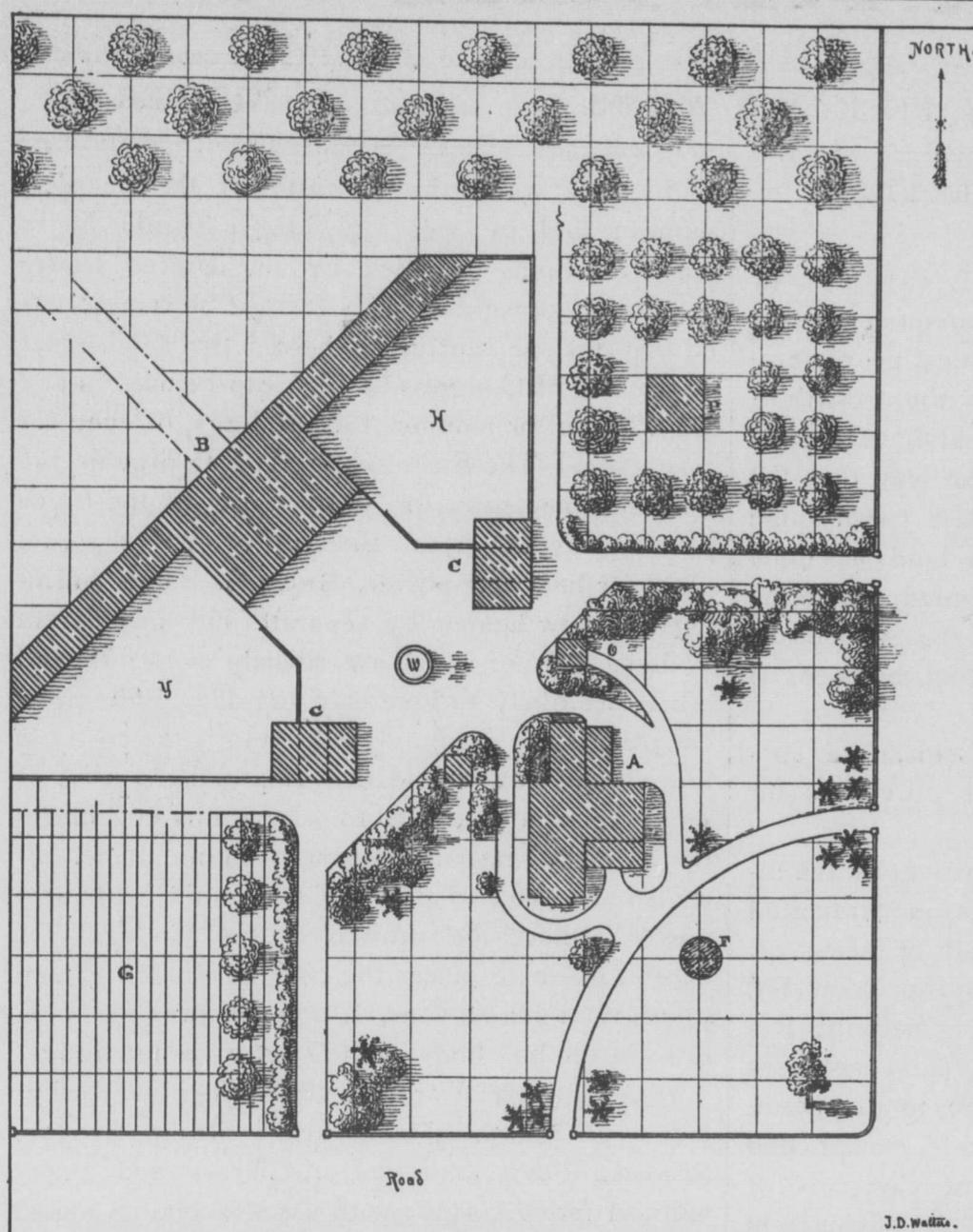
THE HOME GROUNDS.

BY PROF. J. D. WALTERS.

THE season has arrived when the farmer and his family are seriously engaged in laying out the spring work. Hundreds of questions arise as to what might possibly be undertaken in field, garden, and orchard, and what for want of time or means must necessarily be deferred for another year. It is as impossible for the farmer to do everything that ought to be done as it is for a business man or a professional, yet there are some things that require only a proper start at the right time and they will gradually work out their own future. These should not be delayed again, as they were last year. A tree once planted will require very little work from its owner for a lifetime, and a lawn well laid out and seeded will without much care be a thing of beauty almost forever.

Many would undoubtedly plant shade trees and commence the ornamentation of their home grounds if they knew what to do. If these would consult the proper books and periodicals, or visit tastefully arranged home grounds, with a view of observing the mysteries of landscape art, they would soon discover that there are but few principles to be learned. The art of laying out small lots or grounds is not so complex but that everyone who will make an effort can be successful.

It is not possible within the space of a short article to present these principles in detail, or even state them, but attention can be drawn to a few mistakes which are frequently made, and might be easily avoided. It has been stated by writers on aesthetics that beauty can be defined as



EXPLANATION.

A—Dwelling, with front and rear porch.
B—Barn, with sheds on two sides.
C and C—Cribs, with passage for teams.
F—Flowerbed.
G—Vegetable garden.

H—Horse corral.
O—Outhouse.
P—Chickenhouse, in orchard.
W—Windmill and water tank.
Y—Yard for milk cows.

The squares measure twenty by twenty feet, and are printed to aid the eye in comparing distances. The spaces on the northwest side of the barn are reserved for pens and stacks.

the result of an absence of deformity and unnatural associations. The first and most frequent of these mistakes is the location of the barn, corrals, and outhouses in the foreground or near the public road. These necessary buildings should be moved to the rear. If the home is on a section corner, the barn should be as far as possible from both roads. A glance at the accompanying cut shows what might be done. The barn is not only removed from both roads, but, the location being the northwest corner of the section, it is also placed obliquely to the section lines, so as to give better access from the house and more shelter to the barnyard.

A similar mistake is the location of the house too close to the road. The dwelling ought to be the principal object of the view from the side walk, but it should not be too close to the latter. The distance ought to be over sixty feet, and might be two or three times as much. In the cut, which represents a home of modest dimensions, it is just eighty feet.

Another mistake is made in the planting of too many trees in the foreground, and too few in the rear. The foreground should contain but few trees, and these should be trimmed up to the height of twelve or more feet. The most perfect trees should be planted here. The background, however, should be formed by a dense wall of foliage, tall trees behind, evergreens and flowering bushes in front. On the two sides the tree-belt should be comparatively lower and less dense, with an expanse of greensward on one or on both sides of the dwelling. Privet hedges—not osage orange or cedar—may be introduced as indicated in the plan.

Another mistake is the planting of trees in rows. This is admissible along the road, or along a straight hedge, but nowhere else. All trees should be planted in groups or belts. Those that grow tallest should be placed in the middle, and those that grow less tall, around the others. Characteristic shrubs and low trees should form

the edges of all groups. It is better, too, to plant three or more trees or shrubs of the same variety together than to produce a chaotic mixture of all kinds of forms in a small space. Variety is pleasing, but chaos is not.

Another mistake is made by trimming the evergreens into geometrical forms, or by cutting off the lower branches. Dense groups of evergreens, of cedars, Austrian pines, and Scotch pines, are very effective lawn ornaments, but they must be kept low and be given plenty of sunlight or they will lose their most pleasing characteristics in a very short time.

Another mistake is often made by distributing the flowering annuals and perennials all over the lawn. To be effective landscape features, these, like the trees, must be massed together in beds or groups. One large, well-kept flowerbed, well in the foreground, is sufficient to furnish all the bright crimson, white, or blue that is required to offset the predominating green. Besides, the lawn can be mowed more easily when the machine can be used upon the unbroken surfaces.

Another mistake is made in constructing high front fences, or miniature mountains and diminutive ponds, or by lining the walks and flower-beds with shells, bricks, or other material of this character. Nature shows no such foolish bric-a-brac work in its grand scenery, and we must go to her for examples if we would succeed. That art landscape, be it a large public park or a modest home lot, looks best that looks most natural and conceals best the careful work of its composer.

The ground plan is printed here, not to be copied or adopted, but simply to furnish an example of thoughtful arrangement in keeping with the text of the article. No two farmers possess equal building sites, equal herds and crops, equal tastes and equal purses, therefore everyone should prepare his own plans, and do this with much care and foresight; every one should do his own "cutting and fitting."

THREE SKETCHES.

BY MAUDE PARKER, '94.

THE June morning was perfect. You would have certainly said so had you stood with me and looked up our beautiful river. The fresh, delicate greens of forest trees, dainty ferns, and waving grass seemed all wanting to tell their story of the glad new life they felt. The season had just waked up. The breeze, softened to a caress, barely dimpled the water from blue to green, and gently rocked the boat moored at my feet. The river's two arms were stretched out to me, and the trees across the stream beckoned eagerly for me to join in their sport and in the knowledge they had yet to gain. Cool, dark recesses far inland invited me to rest there, and the waters rippled at my feet, saying, "Come with us, come with us." Who could have resisted the wooing of such a siren?

I stood on the bank as another day was just drawing to a close, this time in the Indian summer haze. Sunshine lay in mellow patches here

and there and touched up the crimson and russet brown of the forest. The leaves rustled to each other, softly whispering, "Which shall go first?" Then one fell fluttering to the ground. The rest, clinging fast up there, danced with delight to see how gracefully he floated, and soon another was sent to bear a message to the first. The quiet, broken by the occasional patter of the leaves, was wonderfully restful. Even the murmuring, complaining river was still, slipping noiselessly by. The calm of a well-spent life rested on every thing. And as the sun sank lower and lower and at last out of sight, the sky seemed but a mass of molten brass, the like of which I thought there never could be, till I looked at my feet and saw the glorified river. The whole seemed but a glimmer of the pathway to be followed to reach the streets of gold, given us, as such glimpses are, that we may not be dazzled with the glory of our Lord.

Once again I stand by the river-side, and now at night. It is a study in black and white. Trees, like skeletons, are waving their gaunt arms to and fro in the wind, and in every direction is the cold, white stretch of snow. Nothing but dreariness is before me. Even the river, once wooing me on with flashing smiles like a lavish coquette, now repels me with unresponsive blackness. I am about to turn away from the sullen favorite, when I hear echoes of happy laughter, and turn to see approaching a group bent on sport. Soon a watchfire is built, and a daring skater glides swiftly past. The scene is suddenly all awake in life and merriment. The firelight discloses happy faces and graceful figures. The ring of flashing skates seems but the frozen echo of the sparkling laughter of the river in June. Now I turn away homeward, knowing at last 'tis the same friend as before, but in a different dress: always inviting us to pleasure, yet never the same; always wooing us onward if we will but respond.

A LEAF FROM MY JOURNAL.

BY JOSIE C. HARPER.

AUGUST 17, 18.—Yesterday morning at breakfast we saw a notice in the daily that an Association of the Common School teachers was being held in the adjoining city. Our host asked if we did not wish to attend, adding, "You have nothing like it in your country," and offered to act as our escort. Accepting the proffered kindness, we were soon aboard the express bound for the city.

The Association held its meetings in the audience room of the common school building, a large, two-story stone structure, well ventilated, and the windows so arranged that the light came in over the left shoulder.

As we entered, the Association was being called to order by the President, an elderly man who had been Principal of the Common Schools of the city for some twenty years. A portion of scripture was read and prayer offered, then three spirited songs were sung, after which the singing master of the city instructed the teachers in the art of teaching children the rudiments of vocal music.

On looking over the programme we found that the subjects discussed by the teachers of the common schools of Scandinavia are much the same as those labored over by a similar body in Kansas, with this difference: more prominence is given to music and drawing.

Two papers, the first on the subject, "Why teach Drawing in the Common Schools?" and the other on the old, old theme, "Arithmetic," with their discussions, occupied the time till recess. The papers were short, occupying only ten minutes, and the discussions were pointed and brief, nearly all the members participating.

(Continued on page 110.)

CALENDAR.

1892-93.

Fall Term—September 15th to December 23rd.

Winter Term—January 9th to March 31st.

Spring Term—April 3rd to June 14th.

June 14th, Commencement.

1893-94.

Fall Term—September 14th to December 22nd.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds *at par*. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan., at once.

GRADUATES AND STUDENTS.

J. H. Criswell, '89, was a visitor at the College Friday.

Grace Zeigler, student last year, visited College yesterday.

E. C. Coburn, '91, greeted many friends at the College last week.

Hattie Yenawine, Second-year in 1891-2, visited College yesterday.

Laura Day, Fourth-year, was kept from classes on Thursday by sickness.

F. Hulse, Fourth-year, has been kept from classes several days by sickness.

Miss Berkshire, student last term, attended Chapel exercises yesterday afternoon.

W. L. Hall, First-year, was called home Monday because of the illness of his mother.

B. S. Coleman, First-year student, visited with home folks at Silver Lake over Sunday.

J. V. and Edith Patten, Second-year students, enjoyed a visit from their brother yesterday.

Lizzie Meyers, Second-year in 1890-1, came up to see her College friends yesterday afternoon.

George O'Neil, in First-year classes, went home Thursday to assist his father on the farm.

Mary Maas, First-year last year, visited with her sister Dora, First-year, the early part of the week.

H. M. Ginter, First-year, drops out of College to go to work on the home farm near Valley Falls.

G. A. Dean, Second-year, is detained from College several days this week on account of illness.

W. E. Smith, Fourth-year, was out of classes Monday with a slight attack of pleuritic pneumonia.

M. L. Dickson, Second-year in 1891-2, is on the "Soo Line" (Minneapolis, St. Paul, and Sault Ste. Marie Railway) at Lusca, North Dakota.

Alice Allingham and her cousin, M. M. Graham, whose faces were familiar in classes two years ago, greeted many old friends on the Hill yesterday.

A. B. Ginter, First-year, is compelled to drop out of classes on account of a severe attack of rheumatism. He left yesterday for his home near Valley Falls.

C. A. Campbell and D. C. McDowell, '91, attended the State Oratorical Contest at Topeka last Friday, as delegates from Emporia College, and spent Sunday in Manhattan.

Wesley Gregory, College student in 1874-5, is railroad editor of the Chicago *Journal*, and will be glad to see his old friends who may attend the World's Fair.—*Manhattan Republic*.

Recent word from the Indian School at Blackfoot, Idaho, reports the organization of two companies of the Indians for military drill, by W. L. Morse, '90, and J. L. McDowell, '92, the former having charge of the girls, the latter of the boys.

County Superintendent Clothier ['92] visited the city schools at this place Tuesday last. He is well pleased with the work of the schools and our excellent corps of able instructors. This is the first time the school has been visited by County Superintendent since W. W. Ramey was in the office.—*Eskridge Star*.

B. M. Brown, Second-year, who met with an accident in the gymnasium two weeks ago which

resulted in a broken leg, was able, with the assistance of crutches, to visit College yesterday. He will re-enter classes next week.

P. S. Creager, '91, read a paper yesterday on "The Balanced Ration" in the Shorter Course in Agriculture, which was listened to with marked attention, and clearly showed that the writer had made the question the subject of careful study.

Among the graduates at the social were Alice Vail, Ruth Stokes, Grace Clark, D. H. Otis, '92; Carrie Stingley, Lottie Short, Bessie Little, Nellie McDonald, F. C. Burtis, Mary Cottrell, Pearl Dow, Anna F. White, '91; Nellie Little, Julia Pearce, Marie Senn, '90; Jennie Tunnell, C. E. Freeman, Mary Lee, '89; W. E. Whaley, '86.

A breezy letter from Gertrude Coburn, '91, announces, among other good things, that she is "well, comfortable, happy, and enjoying life and work generally"—and for the INDUSTRIALIST: "It is certainly not lacking in good material. I watch for it eagerly each week, never laying it down till I have read it through from List of Officers to the last advertisement."

Quite a number of students attended the State Oratorical Contest at Topeka last week, among whom were E. C. Abbott, W. J. Yeoman, W. I. Joss, E. G. Gibson, F. A. Dawley, C. D. Leslie, S. H. Creager, A. D. Bensen, W. H. Painter, J. Garrett, J. E. Mercer, Frank Yeoman, C. S. Milburn, F. H. Uhl, D. T. Shorer, H. I. Floyd, C. E. Lewis, and Misses Wilson and Yenawine.

LOCAL MATTERS.

Sickness has seriously interfered with classes this week.

Prof. Lantz was sick and unable to meet his classes on Thursday.

Mrs. Butler, of Pueblo Colo., visited her son Walter, Second-year, this week.

Professors Popenoe and White attended a Farmers' Institute at Oskaloosa on Wednesday.

Professors Graham and Mayo spent two days this week in a Farmers' Institute held at Ulysses, Greeley County.

Rev. R. M. Tunnell, President of Fairmont College, Wichita, led in Chapel exercises on Monday morning.

Mr. and Mrs. Bacheller, of Rhode Island, visited the College yesterday in company of Miss Purcell, of Manhattan.

In the absence of Judge Wellhouse, his excellent paper on "The Apple Orchard" was read by Mr. P. S. Creager, and the many new and interesting points set forth were warmly discussed.

Prof. Hood has devised a photograph holder with which to exhibit our College pictures at the World's Fair. It is a labyrinth of gears and pulleys and chains, and is intended to work freely without the influence of a nickel dropped into its anatomy. To paraphrase a familiar advertising line, you turn the crank, the machine will do the rest.

"The Dairy," by Hon. Geo. Morgan, was the topic on the Shorter Course programme for Thursday evening, but in Mr. Morgan's absence his place was taken by Mr. Benedict, whose experience on the dairy farm of Vice-President Morton at Rhinecliff, N. Y., invested with much interest his answers to a volley of questions on butter-making.

A letter from Prof. Georgeson, received this week, but dated February 5th, states that he found himself busy at once in his investigations, but was delayed somewhat and perhaps restricted by the most severe winter recorded in a hundred years. His work began at the Agricultural College near Copenhagen, where 350 young men are in attendance. He hopes to be home by the middle of March.

The term social for those connected with the College was held Thursday evening last. The Chapel entertainment consisted mainly of music by the orchestra, band, and mandolin and guitar club, and a solo and quartette, with the introduction of the Fourth-years' experience with "the three witches" to give variety to the exercises. The art of entertaining with conversation and

games was practiced the remaining part of the evening, and resulted in a pleasant time for all.

The *Inland Printer* for February contains a full-page portrait of the printers employed in the Government office at Washington, and among them is Geo. F. Thompson, of Manhattan, who, like the average Kansan when away from home, is in the front row. The descriptive article accompanying the illustration is not signed, but bears the ear marks of the Manhattan man.

The first division of the Fourth-year Class made their second appearance, with orations, in Chapel yesterday afternoon in the following programme: "The Power of Discontent," W. E. Smith; "Woman and the World's Fair," Louise Daly; "Political Prejudices," E. M. S. Curtis; "Reformation Due to Civilization," M. W. McCrea; "The Pursuit of Happiness," Ione Dewey; "A Knotty Question," Albert Dickens.

The Shorter Course in Agriculture closed this forenoon with a lecture by Prof. White as a substitute for Hon. T. M. Potter, who was unable to be present. The Course has been successful beyond the most sanguine expectations of the College authorities, fully twice as many persons as were expected having been in attendance, and genuine interest manifested in the lectures and the discussions following. The College is encouraged to plan for a similar course next year, when, with the wider publicity given the announcements, a largely increased attendance may be confidently expected. On motion of Mr. Ed. Secret, of Fancy Creek, a vote of thanks was adopted, and the wish was expressed that the lectures might be printed by the State in pamphlet form for the benefit of the thousands of farmers who cannot avail themselves of the opportunities offered here.

COLLEGE ORGANIZATIONS.

Student Editors.—M. F. Hulett, Edith McDowell, C. H. Thompson.

Young Men's Christian Association.—President, J. E. Thackrey; Vice-President, J. B. Thoburn; Recording Secretary, G. L. Melton; Corresponding Secretary, M. F. Hulett; Treasurer, E. J. Hartzler. Meets every Sunday at 3 o'clock P. M. in Horticultural Hall.

Scientific Club.—President, J. T. Willard; Vice President, A. S. Hitchcock; Committee on Programs, J. T. Willard, ex officio, E. R. Nichols, A. S. Hitchcock; Secretary, Marie B. Senn; Treasurer, F. A. Marlatt. Meets on second and fourth Friday evenings of each month, in the Chemical Laboratory. Admits to membership advanced students and College officers.

Webster Society.—President, M. F. Hulett; Vice President, C. F. Pfuetze; Recording Secretary, J. M. Williams; Corresponding Secretary, J. Stingley; Treasurer, E. G. Gibson; Critic, M. W. McCrea; Marshal, G. A. Dean, Board of Directors, G. W. Smith, H. G. Pope, J. V. Patten, C. E. Shoup, C. S. Milburn. Meets every Saturday evening. Admits to membership gentlemen only.

Alpha Beta Society.—President, C. H. Thompson; Vice-President, Fred Hulse; Recording Secretary, Onie Hulett; Corresponding Secretary, Jennie Smith; Treasurer, A. E. Ridenour; Critic, Ivy F. Harner; Marshal, W. S. Trader; Board of Directors, C. H. Thompson, J. E. Thackrey, W. O. Lyon, Stella Kimball, Sadie Moore, C. M. Morgan, Onie Hulett. Meets Friday afternoon at 2:30 o'clock. Admits to membership both ladies and gentlemen only.

Hamilton Society.—President, W. E. Smith; Vice-President, W. J. Yeoman; Recording Secretary, W. H. Painter; Corresponding Secretary, W. E. Hardy; Treasurer, R. K. Farrar; Critic, J. A. Rokes; Marshal, W. E. Phillips; Board of Directors, G. L. Melton, H. L. Pellet, I. Jones, C. D. Adams, B. M. Brown. Meets on Saturday evenings. Admits to membership gentlemen only.

Ionian Society.—President, Nora Newell; Vice-President, Kate Pierce; Recording Secretary, Margaretta Horn; Corresponding Secretary, Flora Day; Treasurer, Ida Pape; Marshal, Laura Day; Critic, Maude Knickerbocker; Board of Directors, Maude Knickerbocker, Mary Lyman, Olive Wilson. Meets Friday afternoon at 2:30 o'clock. Admits to membership ladies only.

February 17th.

After singing, the Ionian Society was led in devotion by Miss Norton. After roll-call, Misses Cotton and Farwell were initiated. An instrumental duet by Miss Helder and Miss Laura Day opened the programme; Miss Haulenbeck, music committee. Miss Pincomb then read an essay on "Our Duty to One Another." A vocal solo, "A Faded Pantry," was given by Miss Lyman, Miss Helder accompanist. The Oracle by Miss Norton had as its motto, "Little folks should be seen and not heard." Miss Dial then recited "Paint Me a Picture." A vocal duet, by Misses Helder and Haulenbeck, Miss Crump at the piano, closed the programme. After the usual business, reports, etc., the Society adjourned.

F. D.

February 17th.

The Alpha Beta Society was called to order by Vice President Hulett. Mr. Hartzler led in devotion. The programme opened with a declamation by Ivy Harner, entitled "The Organ Builder." H. R. Miller gave a select reading. Debate, question, "Resolved, that Napoleon was greater in the field of battle than in the executive department." Messrs. Trader and Havens, on the affirmative, argued that it was through his military powers that Napoleon became emperor. The men he appointed were not good statesmen. He was the hero of a hundred battles, and his fall was the combined effort of five nations. Messrs. Ridenour and Powell, on the negative, argued that he had many failures in his military career, forsook his troops, and fled to Paris. The most brilliant part of his life was the enactment of his code of laws, showing that he was one of the greatest statesmen of the times. He established the metric system, erected bridges and public buildings, abolished forced taxes, and introduced laws for collecting revenue; the men he appointed were honest, upright men. The Judges, Fannie Parkinson, W. O. Lyon, and Bertha Steele, decided unanimously in favor of the negative. A very interesting edition of the Gleaner was presented by Miss Havens. After recess, extemporaneous speak-

ing, in which the whole Society took part. Report of Critic. Reading of minutes. Adjournment. S. V. K., Sec. pro tem.

February 18th.

The Webster Society was called to order at the usual hour by President Hulett. A large number were absent at roll-call, but they came in later to participate in one of the most interesting sessions the Society has had. The programme was opened by the debate on the question, "Should the Hawaiian Islands be annexed to the United States?" which was argued on the affirmative by C. E. Shoup and J. J. Haney, and on the negative by F. J. Smith and A. C. Fulhage. The affirmative stated that these islands would be of value to United States as a coaling station, that the sugar interest of the islands would be a good investment in the hands of America. The negative stated that the United States would gain nothing in using the islands as a coaling station, and would incur the large debt which this island has and is not able to pay. L. R. Vincent's declamation was followed by H. G. Pope's oration on the subject "Corrupt Political Machines," followed by a political speech by C. F. Pfuetze. Messrs. Aiman and Bell furnished music. The programme ended after a protracted discussion of the situation at Topeka.

J. S.

February 18th.

At 7:30 President Smith called the Hamiltons to order, and the roll was called. A few members were absent on account of going to Topeka to hear the oratorical contest. R. K. Farrar led the Society in prayer. The evening's programme was opened by F. E. Finley, reading an essay about a "Fishing Expedition," "Should the Hawaiian Islands be annexed to the United States?" was the question for debate. C. J. Peterson and F. E. Smith presented the affirmative, and J. A. Scheel and C. M. Brobst presented the negative. The affirmative thought these islands would make an excellent trade center, because they are situated about 2000 miles from San Francisco on the route between there and Australia. There is an area of about 6000 square miles of land on these islands that is well adapted to the raising of various products that our country needs in order to make it more independent. The sugar interests, especially, of these islands are becoming great. There are on these islands 30,000 natives and 20,000 Americans and foreigners. The natives are gradually dying out, and the race will soon be extinct, when nothing but the Americans and foreigners will remain. Although the natives will soon be gone, yet today, through the work of missionaries, they are at least half civilized, and have established schools and churches, and are doing excellent work. The natives are becoming enlightened, and are easily led, and hence they would soon conform to our laws and ways. The affirmative further argued that there would be no moral wrong in annexing these islands, for the majority of the inhabitants are willing and would be glad to see them annexed. The negative argued that if these 30000 natives are only half civilized, we do not want the islands, for we have quite enough of this element in our midst already. We do not want any more land, anyway. If we do annex any, we had better have it a little nearer home, so that it will not take a powerful navy to protect it, as it would in the case of the Hawaiian Islands. Should these islands be annexed to the United States, a land craze would undoubtedly follow, and it is hoped by every true American that this will never occur. So far as the products of these islands are concerned, they amount to but little, for now the United States has almost the exclusive trade of the islands. The Judges, Messrs. Cheadle, Johnson, and Philbrook, decided in favor of the negative. T. E. Lyon furnished the Society with music. After recess, B. W. Conrad kept the Society in a continuous laugh for at least ten minutes by his select reading. C. S. Pope gave a discussion on "The Great Spirit Springs." After business, we had many extemporaneous speeches from the boys who had been to Topeka. Mr. Sutton also spoke. Adjournment. W. E. H.

The general move for better roads covers the village or city street as well as the road in the open country, but the most interest is centered in the improvement of rural highways, for the reason that they are more in need of attention just now than town streets, and because of the combined interest of the farmer and the city people in such country roads. To the farmer first and foremost the question comes home. He cannot afford to work for the improvement of his farm if it is located on a bad road over which he will be compelled to draw his produce to market. By a bad road is meant not only a dangerous road, but a hard road to travel, one over which his team cannot haul a decent load without more effort than is compatible with proper usage. The city person who delights in a pleasure ride in the country or is called out there on any matter of business has a secondary interest in the roads. He will, if possible, keep off the poor roads. The farmer cannot afford to have the pleasure rider take some other road than the one which passes his farm, any more than he can afford to haul his produce over a poor road. The argument is all in favor of taking a strong hold of the subject and pushing all together for better highways.—*Colman's Rural World*.

Many husbandmen who have started in life with nothing but ambition and determination, while others have failed with many superior advantages in a financial way, have made their fortune. It takes brains to manage a farm right. A farmer should make a study of the adaptability of the soil which he cultivates, always planting that which the soil will produce best without robbing it of its strength and fertility. A little shrewd management is often better than a year's labor.—*Farmers' Home Weekly*.

A LEAF FROM MY JOURNAL.

(Continued from page 108.)

We could not help wondering what magic power was possessed by the chair to keep down all the incessant talkers usually found in such gatherings; or were they all doers, and not long-winded talkers. The talker was there, a tall, slim youth with a great deal of enthusiasm, many theories but little experience, and with some order was telling the Association that he thought thus and so, when he was silenced by the tapping of the gavel on the desk and the chair informed the young man that there was a rule that no one should speak over three minutes on any one subject until every member had spoken on that subject.

Looking over the Association, we found by actual count that there were ten more women than men, of whom some were in the bloom and vigor of youth, while others had grown grey in the service. During recess we were introduced to the President and some of the teachers. Learning that we were from America, we were surrounded by an interested throng, eager to learn all about the school system of the United States. One member asked if we would address the Association on the subject, but we would not even entertain the idea; however, we finally compromised by agreeing to answer, so far as possible, any question asked. Such a volley of questions we never had fired at us before in the short space of one half hour; and with the desire to answer correctly our struggle with the language made this not an easy task.

Some of the questions, though amusing to us, nevertheless showed fully the eagerness of these teachers to learn of things American in the line of education.

The remainder of the evening was taken up by a paper and its discussion on "Teaching Handiwork in the Schools," and specimens were handed around for inspection.

There are splendid openings for intelligent and industrious farmers' sons in the trades growing out of farming and dairying. A young man who has been brought up in the country and is familiar with domestic and farm animals generally makes a successful butcher or dealer in the buying of stock. To a dairyman's son, also, the art of handling and treating milk in manufacture ought to be easy of acquisition. The trades growing out of agriculture in this country are of immense financial importance, and no better than farm-bred timber is needed to supply their ranks. In whatever sphere of life one may be, the value of an education is priceless. If a man is tilling the soil for a living and an income, learning will raise him better crops and cause him to sell at better prices than if he had to depend on habit and no knowledge for practical instruction.—*Farmers' Home Weekly*.

Farm life may often seem dull and tiresome in the busiest seasons, but it is far less so than it used to be. Books, newspapers, and magazines come as easily to the country farm-house as they do to the city home. There is, too, on the average, as much reading done by some farmers as there is by city business men. What is read is generally more carefully pondered. The farmer is at work with nature all the time. Insensibly he gets into the habit of noting the hints nature gives. This makes the farmer more philosophical in his habits of thought than are the average of men engaged in occupations that quicken and sharpen intellect by contact with men, but do not broaden mind, as communion with nature is sure to do.—*Colman's Rural World*.

Farming, like every other industry, to be profitable, must be done well. Lazy, slovenly men can be found in all vocations, and they are the men who never make a success in any line, are always pessimists, and can never see any good in doing anything well. There are plenty of farmers, good men, too, if we are to speak of them morally and socially, who are so loose in their business relations that they are always a century behind the times.—*Farmers' Home Weekly*.

LABOR AND EARNINGS.

Every encouragement is given to habits of daily manual labor during the College course. Only one hour of daily practice in the industrial departments is required; but students are encouraged to make use of other opportunities for adding to their abilities and means.

All labor at the College is under the direction of the Superintendents of the departments, and offers opportunity for increasing skill and efficiency. In regular weekly statements, the students are required to observe business forms and principles, showing from their daily account when and where the work was performed.

The shops and offices are opened afternoons and Saturdays for the accommodation of skilled students in work for their own advantage. Everywhere the student who works wins respect; and it is a matter of pride to earn one's way as far as possible.

The labor of the students in the industrial departments is principally a part of their education, and is not paid for unless the student is employed—outside of required hours of labor—upon work for the profit of the College. Students are so employed upon the farm, in the gardens or the shops, and about the buildings. The labor is paid for at rates varying with services rendered, from eight to ten cents an hour. The Superintendents strive to adjust their work to the necessities of students, and give them the preference in all tasks suitable for their employment. So far as practicable, the work of the shops and offices is turned to account for their benefit; and the increasing extent of the grounds and sample gardens brings more of such labor. The monthly pay-roll for the past year ranges from \$250 to \$400.

Many students obtain work in the city or upon neighboring farms, and so pay part of their expenses. In these ways a few students are able to earn their way through College. The amount so earned will vary according to the tact and zeal of the student. The majority must expect to provide by earnings outside of term-time, or from other sources, for the larger part of their expenses. The long summer vacation of three months offers opportunity for farm or other remunerative labor; and no one need despair of gaining an education if he has the ability to use his chances well.

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A. J. WHITFORD sells Stoves and Hardware at very low prices, and carries a large stock from which selections may be made. Student patronage respectfully invited.

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D. R. G. A. CRISTE, Dentist, 321 Poyntz Ave. The preservation of the natural Teeth a specialty.

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D. EWEY, the photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue.

LIVERY.

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MEAT MARKET.

SCHULTZ BROS. offer Fresh and salt Meats in great variety. Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

SHAVING PARLOR.

6 BATHS, \$1.00 cash. 12 shaves, \$1.00, cash. Hair cutting a specialty. All work first-class at Pete Hostrup's Barber Shop, South Second Street.

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Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Applications for Farmers' Institutes should be addressed, as early in the season as possible, to the President.

The Experiment Station should be addressed through the Secretary.

THE NEW COLUMBIAN STAMPS. IV.

BY PROF. A. S. HITCHCOCK.

THE scene on the five-cent value recalls to our minds the patient struggles of a poor map-maker, who, with untiring energy and dauntless perseverance, devoted his life to the accomplishment of what he considered a certainty, but what the world considered the unpracticable schemes of a visionary, that Asia could be reached by sailing westward. We are reminded of his residence in Portugal and his application to the Court of King John for aid in carrying out his enterprise, and how this monarch beguiled him with fair promises but meanwhile sent out privately, to test the matter, an expedition which, after a few days' sail to the westward, returned with an adverse report.

Columbus being highly disgusted with his treatment, broke off his negotiations with the Portuguese King and made his way to Spain, where from 1484 to 1490, he endeavored to gain the support of the Castilian government, always with little success, yet constantly led to hope for the better, by fair promises from the politic Ferdinand.

During these years Spain was completing the conquest of Grenada, a task which left little time for the consideration of schemes of so vague, though brilliant, a character as that presented by Columbus. The latter seems to have followed the court from place to place, supported in part by grants from the crown and in part by making charts. After these years of patient and hopeful waiting he was finally told that the enterprise must be deferred till the war was concluded, and affairs of state should be in a more settled condition.

This indefinite postponement was a severe blow. He determined to leave Spain altogether and make application to the Court of France. He was on his way to the sea-coast, penniless and forlorn, intending to embark at Huelva, a port in the extreme southwest of Spain. He happened to stop at the convent of La Rabida to beg a little bread and water. The Prior happened to pass by, and seeing Columbus, marvelled at the combination of the humble garb and an evidently distinguished air. The result of the conversation was that the stranger was invited to remain with the kindly friars. What took place here will be discussed more fully under another heading; but the plans of Columbus underwent a complete change. The friars became interested in his project, and convinced of its feasibility. One of them made a journey to the Court, and presented the case to Isabella with such success that she requested Columbus to appear before her. He arrived about the time of the surrender of Granada, and in consequence of the general rejoicing was unable to obtain an immediate audience. When the negotiations were entered into between him and the Queen's agents, his demands, in case of the success of the enterprise, were considered exorbitant, and since Columbus would cede nothing, the negotiations were broken off and his eighteen years waiting came to naught. He decided to immediately abandon Spain and try his fortunes in France.

His friends, realizing how critical was the moment, hurried to the Queen and St. Angel with all the eloquence, zeal, and power imparted by his own faith and by the exigency of the occasion, and presented the question again to Isabella. The result was the memorable exclamation of the Queen after having considered for a moment that the King was against the enterprise, and that the royal treasury was exhausted, "I undertake the enterprise for my own crown of Castile, and will pledge my jewels to raise the necessary funds."

Columbus was recalled, and at last his dreams were to be realized.

The scene on the stamp would well represent this last, the speech of St. Angel before Isabella. The dress of the speaker is that of a clerical gentleman rather than that of an applicant at court. But Columbus was not present at this time, nor does he appear to have spoken at any time before Isabella in the midst of a gathering, as represented in the picture. I have been unable to connect the scene with a historic occurrence.

(To be continued.)

FRAGMENTS.

BY JULIA R. PEARCE, '90.

HOW slight a thing may decide our success or failure is not always realized. One student is a trifle more thorough on one lesson, a trifle better prepared on the next, than another student, and after many days, and not so many either, they are far apart in their standing and capabilities.

The housewife who has the ingenuity to use the scraps of material at her disposal will understand what makes the difference between a tasteful home and a cluttered up bric-a-brac shop or a barren, cheerless hall. The worker in wood or iron learns the important lesson of economy in the use of so-called waste materials. I have read somewhere of a large manufacturing firm which was found to be barely paying expenses from the income of the general business. In order that a profit might be made they bethought them of using to advantage all waste products. The slag was found to contain a valuable fertilizer, and by using every particle of it in some way, made a neat profit, not on the business they advertised, but by selling as fertilizers the former waste. This firm had a financial rendering exacted of them, and monthly accounts showed them just what their condition was. But many of us have no such exacting account to balance, and so do not realize the enormity of our losses in the way of wasted time, things read but forgotten, allowed to drop out of mind like dust through a sieve, opportunities not seen till too late, and we wander along with our light load of wisdom, leaving many a rich gleaning far to the left of us, and coming considerably short of paying expenses in life's school of experience.

You have probably noticed how one friend who has read but little seems to remember that little, and to be able to bring up what he knows just when he wants it. A glimpse in a newspaper of several items which were of no note to him when read, but are needed sometime, and he finds them ready. He appears well in conversation, is well informed on almost any topic to be discussed, and this by using to advantage the fragments of information gathered from time to time.

We often hear objections raised to people getting a smattering of any one study. Well, perhaps it is not wise to divide our time and strength among many things, and yet who ever felt his knowledge on any subject a burden, be it ever so remote from his interests. It is a discipline, if no more, a widening of the view, often a salvation from ignominious disgrace. Though you may expect to be a farmer, a knowledge of German or French, Latin or Greek, be your use of these languages ever so limited, can be no detriment; or a glimpse into the beautiful science of astronomy must certainly add to your appreciation of many things otherwise sealed from your understanding.

Our knowledge of any branch—is it anything but a smattering after all? Perfection of knowledge is unattainable. We must be content with fragments, and why refuse a small piece because we can't have a larger one. How fragmentary

our knowledge of literature must necessarily be. In these days of many books, and many writers at work on more, no one can read all, and the difference between the scholar and the ignoramus is the number and size of his fragments of learning. Ten minutes used to their utmost, and something is gained,—a little knowledge, a little discipline, a trifle more strength,—and a habit more fixed, which, while unperceived at the time is never lost in its influence on the life of the individual, and consequently all who profit or suffer by his experience. Count not one item of experience, of information, or of discipline as lost. It must all tell in the sum total.

Our knowledge, our influence, our life as a whole, is composed of the fragments we have saved, a thought gained here, built upon at some later day, an insight into some hitherto unknown corner of knowledge or experience, a little more skill in some art, and so our structure grows from day to day, made of such imperfect material as we each alone can know. Not a judgment is unbiased, not a thought is complete, not one physical movement is what we would demand if we could but get a bird's-eye-view of ourselves.

We all have an ideal, I suppose, which we unconsciously imitate; but it takes only a short look back over our past ideals which constantly changed as our life grew broader to see how imperfect even they were, and to realize that they but poorly represent perfection. Something is lacking still, and our nearness to a complete ideal must depend upon the gathering together of every fragment of knowledge, skill, and judgment into a fuller, more nearly perfect life.

SCIENTIFIC CLUB.

February 24th.

The Scientific Club was called to order by President Willard. The minutes of the last meeting were read and adopted. Prof. Hood presented the paper of the evening, entitled "The Present Practical Limits of Accuracy in Mechanical Engineering Standards."

Under this heading the necessity of standards of length and of other standards were pointed out. The attempts to provide a natural unit of length were mentioned, and the reasons given why an artificial standard like the yard was generally recognized.

If the means for duplicating any standard are such that the amount of the probable errors are a number of times smaller than the smallest error which can be detected in the work of a highly skilled artizan by the best measuring instruments at his command, then the actual length of any standard is immaterial.

The present meter does not fulfill this requirement, as in duplicating the standard, an error of one four-thousandth is known, and this amount is much larger than is frequently worked to by many artizans. In duplicating the standard yard, the possible errors are about one-eighth of the smallest measurement detected by our best measuring devices. The sense of touch will detect an error of that amount very readily, and in trained fingers one ten-thousandth of an inch is detected by this sense. The practical limit of accuracy in general good shop practice seems to lie between one ten-thousandth and one fifty-thousandth of an inch. Standard end measurement pieces can be bought by any shop, the pieces warranted to be within one sixty-thousandth of an inch of absolute accuracy. Micrometer calipers measuring to within one four-thousandth of an inch, even in the hands of a novice, are of American invention, and have done much to popularize accurate measurement.

Fixed caliper gauges, accurate to one fifty-thousandth of an inch, are accessible to all, and have made possible American supremacy in me-

chanical engineering. The system of interchangeable parts of machines is followed in America to an extent unknown elsewhere, and is a direct result of the use of scientific standards of measurement outside of laboratory work. It is known the world over as the American system.

Other standards, as screws, nuts, wheel centers and tires, etc., were invented.

The standard plane surface, as advocated by Whitworth in 1820, and since adopted in universal practice, was discussed: its truth, its preparation, and its properties. Mrs. Kedzie said in her remarks that John Brashear makes the best plates for defraction gratings in the world, and his wife helps him.

MARIE B. SENN,
Secretary.

SECOND CROP POTATOES.

Bulletin No. 37, bearing the above title, will be ready for mailing next week. It details experiments by the Horticultural Department covering a period of three years, beginning in 1889.

On July 11th of that year, two hills were dug of each of sixteen early varieties grown from seed planted March 15, and the potatoes dug were immediately replanted. The yield was not large from these, but the tubers were of unusually good size and quality.

The following spring, seed of the best nine sorts from this lot was planted in comparison with that from the early crop from which it was grown, and with a third lot of the same varieties grown later in the season. The three lots were as follows:—

Lot I., seed from early planting; tubers rather shriveled and small, having sprouted badly in storage.

Lot II., seed from main planting of April 24th; tubers of good size, firm, but slightly shriveled, having sprouted but moderately.

Lot III., second crop, grown from seed dug from the rows that produced lot I.; tubers of medium size, very firm, none sprouted.

The potatoes in lot III. were the tardiest in sprouting, but when they did come up the plants were stronger and of a darker green than the others.

Half of the crop was dug June 24-25, when of first table size; the balance July 24, after they were ripe. The product of the three lots is shown in the following table:—

VARIETY.	Yield to acre, estimated, in bushels.			Weight six best tubers, ozs.			Per cent of marketable tubers.		
	I.	II.	III.	I.	II.	III.	I.	II.	III.
Cuyahoga	72.76	71.51	104.13	18	13	32	50	44	50
Durham	45.19	57.90	100.79	17	10	29	40	40	90
Early Harvest	39.80	59.70	85.51	10	11	25	12	30	80
Early Washington	14.50	67.53	80.37	10	14	15	16	50	80
New Queen	47.50	102.20	116.71	16	20	44	40	55	90
Rochester Favorite	49.17	76.13	108.88	16	23	40	50	62	75
Thornburn	69.33	99.89	114.40	23	18	35	45	30	80
Vanguard	65.61	65.09	79.22	20	19	29	60	60	60
White Prize	75.26	98.73	87.44	20	16	24	20	50	50

On July 28, when the last half of these lots were dug, a portion of each variety in lot II. was planted for second crop. The product of this planting was very satisfactory, the highest yield being at the rate of 200 bushels per acre, and the potatoes being of excellent quality.

In 1891, the trial of second crop potatoes was made more extensive. Second crop seed of eight varieties was planted April 8, in comparison with first crop seed, from 100 to 200 feet of row being given to each variety of each lot. As in the year before, the second crop potatoes were longer in appearing above ground, but the plants were more thrifty and vigorous when they did appear. It was further noticeable that the second crop potatoes bloomed much more profusely than the others.

On June 19, a rod of row from each lot and

variety was dug. Of these, six sorts gave the greatest total yield from second crop seed, while in the other two the first crop yield was ahead, but when sorted to marketable size, the second crop lots were in all cases ahead, not only in actual weight of marketable tubers, but in average size and appearance of these.

In 1892, the amount of second crop seed at disposal was small, and the planting was made quite late, May 18, when the second crop seed was also considerably sprouted. This year there was less difference than before noticed in the time of appearance and subsequent growth of the first and second crop potatoes.

"The conclusions, as far as they may be drawn from these experiments, are, first, that by the early varieties seed may be secured in July sufficiently matured to produce a second crop that season; second, that this second crop will be comparatively light under the most favorable conditions, often small but firm and of fine quality; third, that the potatoes keep through the winter and until planting time in remarkably fine condition, coming out sound, firm, and nearly free from sprouts, under the same conditions in which the ordinary crop of the same sorts become badly sprouted and shriveled; fourth, that this seed planted on an equal footing with that from the usual crop gives in nearly all cases a greatly increased yield, and that of much better average size and quality, the average gain in 1890 of the product from second crop seed over that from main crop seed being 27 per cent, and in 1891, 70 per cent, an average of 48½ per cent for the two, while the gain for varieties best adapted to this trial has in several cases been more than 100 per cent. Now an average gain in product of nearly 50 per cent evidently gives this crop a greatly increased value for seed, and points to this as its most profitable use. The greatly increased growth of tops and the more abundant bloom seem to indicate greater vigor and vitality in the plants, an inference strengthened by their greater resistance of drought.

"The growing of a second crop is only practicable where the growing season is of considerable length. In 1889 and 1890, about 225 days elapsed from the planting of the first crop to the digging of the second, and frosts interfered somewhat with these plantings, both in spring and fall. In 1891, the season was backward, and the first planting could not be made till April 8, shortening the growing season to 195 days, which proved too short for a successful second crop. The southern part of the State would doubtless prove better adapted to this method than the northern counties. Plenty of moisture during the month following planting, either from rainfall or irrigation, will be found necessary to the full success of this crop."

HOW KANSAS FARMERS SAVE MONEY.

Kansas has one of the largest and most successful farmers' mutual insurance companies. It originated in McPherson county, and at that time was intended to be limited to the farmers of the county. It gave such gratifying results here that at the earnest solicitation of farmers in other counties it was made to cover the State. It has been at work for about ten years.

Farm insurance against fire and lightning in policies running five years has cost thus far only about two-fifths of one per cent. This covers losses paid and expenses incurred. The regular rate made by stock companies in the same territory is 1½ per cent, or nearly four times as much. The company has recently begun the issue of a wind-storm policy; and those who have now carried that insurance the full three years that it has been open, have not yet been called on to pay anything beyond the two-fifths of one per cent required by the State law to be made in cash deposit. Still later, as the company has felt its strength, it has insured growing crops against hail. This has cost 21 cents an acre as compared with 40 cents charged by stock companies. Though the nature of the business has made it impracticable to systematically canvass for risks, the company now carries about \$3,000,000, which has simply come to it asking to be insured. The entire business is managed by the farmers themselves. All the officers are farmers—personal acquaintances of mine. The whole scheme is so simple and so eminently successful in practice that it would seem as though it were only a matter of understanding it, till the farmers of each State would give themselves the benefit of a similar organization.—F. A. Waugh, in *Farm and Home*.

CALENDAR.

1892-93.

Fall Term—September 15th to December 23rd.

Winter Term—January 9th to March 31st.

Spring Term—April 3rd to June 14th.

June 14th, Commencement.

1893-94.

Fall Term—September 14th to December 22nd.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan., at once.

LOCAL MATTERS.

Hon. G. H. Coulson, Representative from Harper County, visited a day or two this week with his son, who is ill of erysipelas.

Prof. Popenoe has, at the earnest solicitation of the publishers, consented to edit the Entomological Department of the *Kansas Farmer*.

Mr. and Mrs. Wm. Lumb, of Welcome, Geary County, guests of Prof. and Mrs. Mason, visited the College for the first time on Thursday.

The Webster Quartette and other students took part in the programme at the Musicale given at Mr. Purcell's residence on Tuesday evening.

Meekel's Stamp News of St. Louis reproduces Prof. Hitchcock's articles on "The Columbian Stamps," and refers to them editorially in a complimentary way.

On Wednesday, in response to an "At Home," the Fourth-year Class met Mrs. Kedzie and the Post-graduate Cooking Class in the former's office and partook of the delicacies which our College girls know so well how to prepare. All "had a very pleasant time, indeed."

Prof. Hood gave an interesting talk before the Alpha Beta Society yesterday afternoon, taking for his theme the works of James Whitcomb Riley. The Society and the many visiting friends present will long remember with pleasure this entertaining and instructive account of the productions of our "American Burns," and also the fact that, in his younger days, Prof. Hood knew the poet personally.

The third division of the Third-year Class entertained the chapel audience yesterday afternoon in the following programme: "The Successful Life," F. W. Ames; "Is Life Worth Living?" Lorena E. Clemons; "Business Relationships," George Boardman; "Thrown on Our Own Resources," Sarah E. Cottrell; "America's Opportunity," Geo. L. Christensen; "Linnaeus," J. C. Christensen.

We get tired of seeing Kansas papers every day in the year (and many of them of a class which ought to know better) allude to "the Manhattan College." There is no "Manhattan College." The Kansas State Agricultural College is located at Manhattan, and is the most prominent, successful, and ably conducted institution of its class in all the Union, east or west. Having a school of such character and standing at the head of the list in its line, why not, as loyal Kansans, quit belittling it by a fool nick-name and dignify it by using the proper definition?—*Kansas City Gazette*.

Governor Lewelling has appointed as Regents Messrs. Ed. Secret of Riley County, Harrison Kelly of Coffey County, E. D. Stratford of Butler County, and W. D. Street of Decatur County. With the exception of Mr. Stratford, all are farmers, and will be awake to the needs of the greatest Agricultural College in the land. Particularly is this true as to Mr. Secret, who has testified in many ways to his friendship for the institution. Mr. Street also publishes the *Oberlin Herald*. Mr. Stratford is a lawyer, but, like all Regents, will no doubt soon acquire a taste for agriculture, or at least sympathy with the art.

With regard to the introduction of shop work in the public schools of Austin, Minn., the *Register* says: "There is plenty of room for shops in the basement of the High School; the engine that runs the ventilation fans could also run the necessary machinery. It is a rare case that a Principal of the High School would be able to conduct this work; but our Principal, Mr. Davis, ['90], having had special training in this field at the Kansas State Agricultural College, is abundantly able to conduct such classes, besides his popularity with the boys makes him especially valuable for this line of

work. The expenses involved, including first cost of tools and lumber, for one year's use, would not greatly exceed \$500."

GRADUATES AND STUDENTS.

M. A. Limbocker, Second-year, is in classes after a week's sickness.

Rodney Whaley, Second-year in 1889-90, is seriously ill in Colorado.

D. Shorer, First-year, finds it necessary to go home on account of sickness.

Onie Hulett, Fourth-year, has been kept from classes for a week by a severe attack of quinsy.

C. S. Green, Second-year, drops out of College to work in the Chicago Lumber Company's yard.

E. B. Coulson and T. W. Morse, Third-year students and room-mates, are sick, the former of erysipelas.

Grace Clark, '92, had charge of the Class in Logic for two days this week during President Fairchild's absence.

S. L. Van Blarcom, '91, came up from Kansas City Saturday and spent Sunday with friends in the City. He is still in the Railway Postal Service on the Santa Fe from Kansas City to Newton.

Friends will be glad to learn that F. A. Waugh, '91, has been elected Professor of Horticulture in the Oklahoma Experiment Station. While Mr. Waugh has not yet accepted the chair, it is probable that he will do so soon. His training in the art, and his well known love for it, will enable him to fill the position with credit to the institution and to himself.

The February number of *American Gardening* contains an interesting article, profusely illustrated, on "Ellerslie," Levi P. Morton's famous dairy farm, in which occurs the following notice of a member of the Class of '84: "The Foreman of the estate is H. M. Cottrell, for nearly Assistant Agriculturist in the Kansas Experiment Station, and a man in whom Mr. Morton justly places great confidence."

Carl E. Friend, '88, is President of the newly organized Citizens' State Bank of Soldier. The *Clipper* says of him in this connection: "Carl E. Friend, as President, is the right man in the right place. His success as a business man is that which brings confidence and esteem from all. The members of the bank and community at large are to be congratulated on his being selected as President. We also extend congratulations to Carl on being chosen to such a high and responsible position."

THE WEATHER FOR FEBRUARY.

BY PROF. E. R. NICHOLS.

Temperature.—The mean temperature for February, 1893, was 26.69° , which was 3.87° below normal. There have been but ten colder Februarys in the past thirty-six years. The extremes were 21.5° , in 1879, and 40.37° , in 1852. The maximum temperature was 61° , on the 19th; the minimum, -6° , on the seventh—a monthly range of 67° . The warmest days were the 13th and 26th, with a daily mean of 41° ; the coldest day was the 1st, with a mean of -3° . The mean of the observations at 7 A. M. was 20.21° ; at 2 P. M., 35.68° ; at 9 P. M., 25.43° . The mean of the maximums was 38.82° ; of the minimums, 16.89° , the mean of these two being 27.85° . There were cold waves on the 5th and 26th.

Barometer.—The mean barometer for the month was 28.95 inches, which is .13 inch above average. The highest barometer was 29.69 inches, at 2 P. M. on the 17th; the lowest, 28.31 inches, at 7 A. M. on the 27—a monthly range of 1.38 inches.

Precipitation.—The total rainfall and melted snow was .89 inch, which is .15 inch below normal. The snow-fall for the month was 6.5 inches. Rain or snow fell in measurable quantities on the 1st, 4th, 8th, 13th, 17th, and 27th. There was thunder and lightning on the morning of the 1st, and evenings of the 13th and 26th.

Cloudiness.—There was one day entirely cloudy, one five-sixths cloudy, four two-thirds cloudy, three one-half cloudy, eight one-third cloudy, and eleven clear. The cloudiness for the month was 31, which is 15 below normal.

Wind.—The wind was from the north fifteen times, southwest twelve times, south eleven times, northwest ten times, west nine times, southeast

seven times, northeast and east three times each, and a calm fourteen times. The total run of wind for the month was 7747 miles, giving a mean daily velocity of 279.68 miles, and a mean hourly velocity of 11.53 miles. The maximum daily velocity was 494 miles, on the 1st; the minimum, 99 miles, on the 15th. The maximum hourly velocity was 33 miles, between 4 and 5 P. M. on the 27th.

Below will be found a comparison with the preceding Februarys:—

February.	Number of rains.	Rain in inches.	Prevailing Wind.	Per cent Cloudiness.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Mean Barometer.	Minimum Barometer.
1858	1	.46	N	52.25	71	-1	.....	.....	.....
1859	22	.61	SW	33.74	64	-6	.....	.....	.....
1860	24	1.84	SW	33.71	68	-9	.....	.....	.....
1861	0	.00	NW	33.71	68	-9	.....	.....	.....
1862	1	.12	NW	24.54	54	0	.....	.....	.....
1863	7	2.70	N	29.72	53	-4	.....	.....	.....
1864	4	1.10	NW	38.20	58	13	.....	.....	.....
1865	4	2.41	NW	34.68	58	13	.....	.....	.....
1866	.....	.....	.....	.....	.....	.....	.....	.....	.....
1867	3	2.01	N	31.70	57	-2	.....	.....	.....
1868	3	.18	SW	29.39	69	-6	.....	.....	.....
1869	5	1.17	NW	30.27	65	-4	28.74	29.25	28.30
1870	0	.00	SW	33.68	69	-3	28.69	29.10	28.10
1871	6	2.48	NW	35.86	71	3	.....	.....	.....
1872	4	.48	NW	32.27	68	-10	.....	.....	.....
1873	2	.30	SW	30.50	66	-4	.....	.....	.....
1874	4	1.05	NW	25.27	48	2	28.78	29.24	28.10
1875	4	.87	NW	22.50	63	-10	28.73	29.40	28.14
1876	5	.65	SW	36.96	69	-4	28.81	29.32	28.26
1877	5	.91	SW	39.59	65	16	29.01	29.40	28.40
1878	5	1.44	SW	39.10	68	6	28.65	29.13	28.23
1879	2	.75	SW	21.50	58	-14	28.84	29.42	28.29
1880	1	.05	SW	36.78	67	4	28.59	29.69	28.02
1881	3	2.75	NW	22.55	47	-13	28.63	28.98	28.23
1882	2	.42	NW	40.37	69	7	28.65	29.96	28.14
1883	4	1.75	NW	25.76	65	-17	28.88	29.46	28.09
1884	3	.58	SW	26.01	63	-6	28.76	29.12	27.97
1885	5	.55	SW	21.57	60	-18	28.58	28.96	28.06
1886	4	.35	SW	31.42	69	-7	28.94	29.48	28.08
1887	6	1.18	NW	27.84	72	-9	28.98	29.59	27.90
1888	2	2.67	N	32.12	71	-4	29.05	29.75	28.44
1889	3	.54	N	25.53	64	-10	29.15	29.80	28.47
1890	5	.24	N	29.97	70	-5	28.95	29.48	28.44
1891	2	.84	SW	27.56	68	0	28.89	29.41	28.16
1892	5	2.95	SW	34.61	64	12	28.91	29.25	28.23
1893	6	.89	N	26.69	61	-6	28.95	29.69	28.31
Means	3.5	1.04	SW	30.56	64	-3	28.82	29.34	28.20

WIND RECORD.

February.	Total Miles.	Mean Daily.	Maximum Daily.	Minimum Daily.	Mean Hourly.	Maximum Hourly.
1889	4861	173.62	348	40	7.23	28
1890	5812	207.57	374	74	8.65	28
1891	7075	274.11	541	80	11.42	34
1892	7024	242.22	407	101	10.09	30
1893	7747	276.68				

to better use in making internal improvements, such as building better State houses, making better harbors, deepening our larger rivers, building canals, and bettering advantages for increasing international transportation. The Society decided in favor of the affirmative. D. M. Steele presented an essay on "Kansas Prosperity." G. H. Eggleston read one on "Airships." Excellent music was given with C. H. Bell as committee. A. Dickens read a good selection entitled "My Novelette." Then a recess of ten minutes was taken, after which Mr. Stokely discussed some of the methods of removing coal from the mines, and gave such points as he had seen. The Reporter was presented by E. M. S. Curtis. The paper was bright and healthy, and contained many good productions. After this followed a general discussion on "College Uniforms," pro and con. Unfinished and new business. Adjournment.

C. P.

February 24th.
The Ionian Society was called to order by President Newell. Singing, devotion, rollcall. Miss Stella Hougham was then elected and initiated. The programme was opened by a duet by Misses Denton and Correll, Miss Crump at the piano. Miss James recited the amusing piece, "Pyramus and Thisbie." Miss Hartley read an apostrophe on "Closing the College." Miss Lyman then favored the Society with a solo, Miss Helder playing the accompaniment. Miss Helder presented the Oracle. Among some of the contributions were "The Typical Ionian," "A Story Told by a Day-Old Skirt." The question "Resolved, that the study of medicine for women should be encouraged." was debated by Misses Daisy Day and Maggie Correll on the affirmative, and Misses Maude Kennett and Lottie Henry on the negative. The affirmative said that women are adapted for such work on account of their sympathy and tenderness; that it is needed in the home; that as a profession it is paying, and will make women intellectually stronger. The negative argued that a woman's place is in the home; that she is not physically strong enough, and is usually too nervous and excitable. The Judges, Misses Hall and Wilson and Mr. Abbott, decided unanimously in favor of the affirmative. Misses Mudge and Walters favored the Society with a duet, and responded with an encore. Miss Hall gave an oration, subject, "Only a Name." Miss Lantz sang a solo, "Loreley," Miss Lyman at the piano; Miss Horn, Music Committee. After the usual reports, business, etc., the Society adjourned.

F. D.

February 24th.
The Alpha Beta Society was called to order by President Thompson. A vocal solo, "The Danube River," was sung by Elva Palmer. E. J. Hartsler led in devotion. A declamation by Ellen Halstead was followed by an essay entitled "A Trip over Marshall Pass," read by Nannie Hartzler. Debate on the question, "Should the Hawaiian Islands be annexed to the United States?" was argued on the affirmative by C. H. Thompson and Elsie Waters. America has been an important factor in the populating of these Islands ever since their discovery. Hawaiian kings and queens have had Americans in their Cabinets, and have sent them as ambassadors to other countries. American missionaries gave them an alphabet, taught them many of our customs, and persuaded them to give up idolatry for the Christian religion. Nine tenths of their commerce is with the United States; and this led to the adoption of American customs. Streets are lighted by electricity under the supervision of United States companies, and farming and sugar making implements are supplied from the same sources. The advantages of their many products were mentioned. Sugar, cotton, and all kinds of fruits are grown there. They have good schools and harbors, pleasant places for resort, and numerous other advantages. The speakers on the negative, J. E. Thackrey and Elva Palmer, spoke of the mortgage of two million dollars which a German holds over the islands. The great expense it would be to protect their rights and interests. The Revolutionists only wish annexation, while the old government petitions the President and Congress that this shall not be done. The negative thought the moral as well as the political phase of the question should be considered. It would be a blot in our history to admit these people just from savagery, ignorant, superstitious, slaves to the opium habit and favoring mormonism. Admission was not requested until the reduction on sugar, and by annexation they hope to regain the loss. Another objection to be considered is the fact that leprosy exists there. The judges, Misses Havens, Jones, and Pritchett, decided unanimously in favor of the negative. The Gleaner, prepared by the first division, was read by Fannie Thackrey. After recess, a guitar solo by Mr. Buck was heartily encored. Mr. Phipps gave an informal speech, which was discussed by the Society. After the usual orders, the Society listened to music by W. O. Lyon, and adjourned.

J. R. S.

February 25th.
The Hamilton Society opened with President Smith in the chair. After roll call, Mr. Hutchings led in prayer. Declamations by B. N. Medaris and R. M. Philbrook preceded the debate on the question, "Resolved, that the road work should be done by contractors instead of by the farmers." J. A. Rokes and C. F. Pincomb presented the affirmative. Many farmers have come to look upon road-work as a pastime, and they do not as a general thing exert themselves in the least towards the building of good, substantial roads. Rather than to break the ties of friendship, it is common for a road overseer to allow his men to pile a little mud in the middle of some road near by, instead of sending the men where the work is actually needed. It is true, also, that the man who is often elected as a road overseer is some little, shiftless, political crank who could not make a living at anything outside of the line of road-work. Generally, the farmer is too busy with his own work to do any road-work when it is needed. Like the building of bridges, road-work is something that must be learned. Who would think for a minute of sending a lot of inexperienced farmers to build a bridge. It would be absurd to do such a thing. So would it be to send many farmers to work on the road. J. D. Riddell and C. Snyder presented the negative. What the farmer needs is a strong, intelligent, go-ahead, non-partisan man as a road overseer. Whenever there is such a man elected, the roads are in excellent condition. If we were to have our road work done by contractors, it would be very unsatisfactory to the majority of the people; for it seems to be the prime object of these contractors to pile little heaps of dirt up in the center of the road to make it show off as much as possible. Even when these men would do the work, it would be very difficult to determine the exact amount of work done, on account of the surface being so uneven. Certainly the amount of work done could not be calculated by

number of hours they work. Judges C. A. Chandler, C. D. Leslie, and G. G. Boardman decided two to one in favor of the affirmative. After J. J. Johnson told us the important news of the week, we had ten minutes recess. The next on the programme was an oration by G. Boardman. F. R. Smith had for the motto of a good number of the Recorder—

"As the spring time now is drawing near,
When one should look quite neat,
The order of the day should be
Go off and soak your — head."

The most noticeable articles besides the "Editorial" were "Brains Wanted," "The Way the College Girls Kiss" (poem), "Lost or Stolen," "Into the Land of Dreams" (poem), "Prof. Georges' Will," " '93 and Commencement" or "The Senior's Tale of Woe," "Kollege Klubb Dance" (poem), "Another Dream," "The Senior Tough" (poem), "Basement of the State Capital," and "Our John's Dream" (poem). E. C. Abbott's select reading on a "Bible Romance" was appreciated by all. After J. D. Riddell and J. M. Calhoun favored the Society with a duet, we were of the opinion that the "vocal capacity" of the "Hamilton Quartette" is a thing of the past. C. A. Chandler told us something about "Inventions." Business; adjournment.

W. E. H.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

The next regular teachers' examination will be held Saturday, April 29th.

Rev. Dr. Hendy, until lately the President of Emporia College, has accepted the Presidency of the Oswego Seminary.

Republic County is discussing the County High School question. The Scandia *Journal* is strongly in favor of the project.

Prof. C. M. Culver, of the Emporia schools, has accepted a position as teacher of mathematics in the Topeka High School.

The management of the World's Fair has given special concessions to Kansas in allowing an account of Prof. Dyche's travels to be sold on the grounds.—*Kansas City Star*.

The annual State Oratorical Contest held at Topeka two weeks ago, resulted in a victory for W. C. Coleman, of the State Normal School. The title of his oration was "Philosophy and Reform."

Prof. V. L. Kellogg, who for sometime had charge of entomology in the State University, and of late has published a work on the destructive insects of Kansas, has gone to Leland Stanford University in California to work in his chosen field under Prof. Comstock.

Some enterprising person at Winfield has organized a "Teachers' Educational Bureau" for pedagogues who desire a position in Kansas, Colorado, Oklahoma, and Texas. They promise faithful service and fair treatment.

Superintendent C. G. Swingle, of Riley County, has commenced the publication of the *Riley County Educator*, a monthly about the size of the *INDUSTRIALIST*, and devoted to the educational interests of Riley county. The paper is neatly printed, well filled with interesting reading matter, and may be had for the small sum of twenty-five cents per year.

The Riley County Normal Institute will be in session four weeks, commencing in June; will be conducted by Supt. Gray of the Abilene schools. Supt. E. M. Brockett, of the Mankato schools, and Supt. Geo. D. Knipe, of the Manhattan schools, have been engaged as instructors. The class in reading will be under the management of C. B. Griffith, teacher of reading and elocution in the Friends' Academy.

Governor Lewelling has made the following appointments of Regents of State schools: Normal School, John Madden of Chase County, J. S. McGrath of Mitchell County, and V. K. Stanley of Sedgwick County; University, Charles Robinson of Douglas County, A. S. Olin of Wyandotte County, and J. P. Sams of Nemaha County; Agricultural College, E. H. Secret of Riley County, E. D. Stafford of Butler County, W. D. Street of Decatur County, and Harrison Kelley of Coffey County.

Governor Lewelling, in his message to the State Legislature, advised the passage of a law providing free text-books for use in the public schools. The bill was framed, and bids fair to become a law, having passed second reading in the House and the Senate in its favor. From an exchange we clip the following arguments for the system: "We have free school houses, free teachers, free fuel, free furniture, free apparatus, and

must have free books to make our public schools really free. The free book system encourages the attendance of children whose parents are too poor to buy books, or too sensitive to allow them to be classed as "indigent" and supplied by the authorities. The State is best served when every child of school age is receiving instruction; and experience proves that free school books usually add from ten per cent to twenty-five per cent to the enrollment. With free books the best classification is possible, much precious time is saved, and the efficiency of the schools is increased. Nearly one-half of the money now paid for books could be saved by buying at wholesale. Districts that have tried free books are well satisfied, and could not be induced to go back to the old plan."

The State Oratorical Association has elected the following officers for the ensuing year: President, Forest Woodside, of the State Normal; Vice President, C. W. Miller, of the College of Emporia; Secretary and Treasurer, J. W. Curry, of the Southwest Methodist College, of Winfield; Delegates, Willis Dunham, of Washburn College, H. Q. Banter, of Ottawa College. An application by Midland College of Atchison for membership in the Association was rejected by a vote of 12 to 3.

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc. '75.

VARNEY'S BOOKSTORE.—Popular Head-quarters for College Text-Books and Supplies. Second-Hand Books often as good as new. Call when down town. Always glad to see you.

DRY GOODS.

E. A. WHARTON'S is the most popular Dry Goods Store in Manhattan. The greatest stock, the very latest style, the most popular prices. Always pleased to show goods.

CLOTHING.

ELLIOT & GARRETSON, Clothiers and Furnishers, invite students and all other College people to call and examine their large stock of new goods. All the desirable things in men's wear. Latest styles in every department.

WATCHES, JEWELRY.

J. Q. A. SHELDON, "the Jeweler." Established in 1867. Watches, Clocks, and Jewelry repaired. Eames Block.

R. E. LOFINCK keeps a big stock of Watches, Clocks, Jewelry, and Gold Spectacles, also Musical Instruments. '75.

E. K. SHAW, Jeweler and Optician. Watches, Jewelry, Silver-ware, Spectacles, Clocks, Fountain Pens, Gold, Pens, etc. Repairing of Watches, Clocks, Spectacles, and Jewelry done promptly and skillfully. A written guarantee given with all warranted watch work. 308 Poyntz Ave.

DRUGS.

W. C. JOHNSTON, Druggist. A large line of Toilet Articles and Fancy Goods. The patronage of students is solicited.

HARDWARE.

A. J. WHITFORD sells Stoves and Hardware at very low prices, and carries a large stock from which selections may be made. Student patronage respectfully invited.

DENTIST.

D. R. G. A. CRISE, Dentist, 321 Poyntz Ave. The preservation of the natural teeth a Specialty.

PHOTOGRAPHS.

D. EWEY, the photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue.

LIVERY.

PICKETT'S NEW LIVERY STABLE.—Everything new and strictly first-class. Special attention will be given to student trade. Prices that will suit you. Stable three doors east of Commercial Hotel.

MEAT MARKET.

SCHULTZ BROS. offer Fresh and salt Meats in great variety. Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

SHAVING PARLOR.

6 BATHS, \$1.00 cash, 12 shaves, \$1.00, cash. Hair cutting a specialty. All work first-class at Pete Hostrup's Barber Shop, South Second Street.

GENERAL MERCHANDISE

THE SPOT CASH STORE is Headquarters for Dry Goods, Nations, Boots and Shoes, Hats and Caps, Clothing, and Ladies' Wraps. Lowest prices in the city.

E. B. PURCELL, corner of Poyntz Avenue and Second Street, has the largest stock in Manhattan, of everything wanted by students, consisting in part of House-keeping Goods, School Books, Stationery, Boots and Shoes, Clothing, Hats and Caps, Dry Goods, Groceries, etc., etc. Goods delivered in all parts of the city and at the College, free of charge.

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STATE AGRICULTURAL COLLEGE.

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COLLEGE BUSINESS.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.
Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.
All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.
The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.
Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.
Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.
General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.
Applications for Farmers' Institutes should be addressed, as early in the season as possible, to the President.
The Experiment Station should be addressed through the Secretary.

THE NEW COLUMBIAN STAMPS. V.

BY PROF. A. S. HITCHCOCK.

THE six-cent, ten-cent, and fifteen-cent values represent scenes which can conveniently be described together. Columbus is seen here in the midst of his triumph, on the very crest of the wave of popularity. He is no longer a poor mendicant or dreamy visionary, at sight of whom people tapped their foreheads and looked grave, nor is he longer the inflexible tyrant who would carry three boat-loads of unwilling victims to the ends of the earth there to be sacrificed to his reckless and desperate venture. Thanks to his indomitable energy, he has successfully passed through these stages, and now is reaping the reward.

The Admiral of the ocean sea departed from Palos, with his fleet of three vessels, on the 3rd of August, 1492, and arrived off the coast of Portugal March 4th, 1493, having been absent seven months. After a few days' delay in Portugal, he sailed for Palos, and arrived at that city on the 15th of March. The sovereigns, having received letters from Columbus, requested him to repair immediately to court, then at Barcelona.

He arrived there about the middle of April, his journey of six hundred miles having been one long triumphal procession. At the city of Barcelona he was given a magnificent ovation. Elaborate preparations were made by the sovereigns to give him a public reception in a vast saloon, in a manner suitable to a person of the highest rank. He there gave an account of his discoveries, exhibited various curious objects, such as birds, medicinal plants, and gold ornaments, and above all, he presented six of the natives he had brought with him from the new-found country.

Columbus was now at the zenith of his popularity. At a subsequent period he was doomed to suffer much from the envy and malice of his enemies, and from the cold neglect and calculating policy of Ferdinand.

The view on the six-cent stamp represents Columbus welcomed at Barcelona, and is taken "from one of the panels of the bronze doors, by Randolph Rogers, in the Capitol at Washington." In the foreground rides Columbus, followed by the Spanish chivalry. The six Indians were on in front, one of which can be seen. "After these were borne various kinds of live parrots." One of these is probably being held aloft by the person seen rather indistinctly in the background. At the right we see the populace craning their necks to catch a glimpse of this extraordinary man.

On each side of the central picture is a niche in which is a statue. Not being acquainted with the gentlemen represented, I wrote to the Post-office Department for information. In reply I received one of the circulars to postmasters, treating of the new series of stamps. In regard to the six-cent value it says: "On each side of the scene represented is a niche, in one of which is a statue of Ferdinand, and in the other a statue of Bobadilla." But the word Bobadilla was cancelled by an ink line, and on the margin was written Balboa. The paper bore the stamp of the Third Assistant Postmaster General.

The statue of King Ferdinand is a suitable accompaniment to the central picture, but the presence of a statue of Balboa is not so easily explained. Vasco Nunez de Balboa had nothing to do with Columbus except that he was an adventurer in the colony of San Domingo. We first hear of him in 1510 when he joined an expedition to Darien, concealing himself in a cask at the time of sailing in order to escape his creditors. After many vicissitudes of fortune, he arose to supreme command of the colony, and impelled by a desire

to investigate certain reports in regard to a vast ocean beyond the mountains, made a perilous journey across the isthmus and had the distinction of being the first European to gaze upon that vast and hitherto unknown body of water, the Pacific Ocean. He was afterward superseded in the government by the jealous and suspicious Davila, who finally beheaded him on an unfounded charge of treason.

Bobadilla, however, was very closely connected, at one time, with the fortunes of Columbus. In consequence of the dissolute character of the adventurers who formed the greater part of the colony on the island of San Domingo, rebellion and other acts of violence, which called forth stern and stringent measures on the part of Columbus and his brothers, were of so frequent occurrence, and his numerous enemies were so active in maligning his character, that Ferdinand, glad of an opportunity to withdraw the extensive powers he had vested in the Admiral, appointed Bobadilla to investigate the affairs of the colony and arrest all culpable persons. More will be said concerning him in discussing the fifty-cent and two-dollar stamps, but it can be said here that on arriving at San Domingo he assumed the office of Governor and sent Columbus home in chains.

It would seem that there was much better reason for placing on the stamp the statue of Bobadilla than that of Balboa. The fifteen-cent stamp pictures Columbus as he appeared before the sovereigns at Barcelona. On the platform are seated Ferdinand, Isabella, and Prince Juan, while on either side is the eager assembly.

The ten-cent stamp presumably represents the same scene at the moment he brings forward the six natives, five only of whom are shown in the engraving. If this is the same scene, the artist has made some changes; the King and Queen have exchanged places, and Prince Juan has either tired of the fun and has gone to play, or is hidden behind his father; the steps have been carried off and Columbus has changed his attire, as would also appear to be the case with the sovereigns. I will leave this to those who have seen the originals, the former "after the painting by R. Baloca, now in Madrid," and the latter "after the painting by Luigi Gregore, at the University of Notre Dame, South Bend, Indiana." These two pictures show no greater differences, however, than, for instance, the portraits of Jesus Christ.

(To be continued.)

THOROUGHNESS A REQUISITE TO SUCCESS.

BY KATE H. PIERCE, '94.

IN the busy whirl of our every day practical life, many are being unexpectedly thrown on their own resources; hence the need of thorough preparation, and the old adage "In time of peace prepare for war," proves itself very practical. Too often the young people in their college days lose sight of this first and most important factor in their education—thoroughness—in seeking after the perhaps more pleasant features.

Thoroughness is just as necessary to fit one to meet the brunt of this world's battles as discipline was in our late war. Without it the soldiers were unable to accomplish anything.

No matter how many branches of study a student may be able to say he has passed, unless he has been thorough he cannot begin to compete with the student who understands but one, but understands that one well. When he can say truly, "I have mastered it," he is placed on a pedestal far above the shallow student of many branches.

In this day and age a young man is taught from boyhood that something is expected of him more

than merely filling an ornamental place in society, and in order to be a true gentleman, true to his Maker, and to his fellow man, he is taught to master some trade or vocation. Are the girls of to-day any less capable of filling the positions of trust and responsibility? Surely their standing here in the classes of the College will prove that they can compete with the young men. Then why are we not expected to cultivate our powers for right?

Fifty years ago the young women of our land were not expected to be educated as were the boys, but were taught that the higher planes of education were "heights attained and kept" by men only. Today we, as the young women of the land, are taking our places on an equal plane with our brothers. The brother and sister may be seen going to school together, and on the platform commencement day they are side by side. Then, dear sisters, we must cultivate thoroughness in order to take our places by their sides as bread-winners.

We do not clamor for equal rights, for we have them now. We have a higher and sweeter place to fill in this world than that of a voter. If we train our powers for good with the thoroughness we should, we shall have an influence felt at the polls stronger than our votes.

We have but to climb the ladder whose first and last round is thoroughness, till we reach the plane of true womanhood.—*Ionian Oracle*.

PROSPEROUS FARMING.

There was a time when farming was considered to be an occupation to be accepted when all else failed; to be resorted to when a lack of intelligence, education, energy, or business qualification drove him from the so-called higher avenues of trade and commerce. Then the farmer was considered as the slave and hireling, the hewer of wood and the drawer of water. His ignorance was made sport of, his prejudices were appealed to. He did not have the privilege of an education. His demands and protests were disregarded and derided; but the conditions have changed—general education has been disseminated throughout the land, the school-house has been planted on every hill top. The Agricultural College has been erected within the State, the means of education has been placed within the reach of every person. The farmer's family has equal advantages with every other family: art and music, literature and science, have been placed within their reach—until the farmer's home may be adorned with all the embellishments of refined and intellectual society.

The successful farmer is, in the estimation of many people, the farmer who owns the most land, who raises and feeds the most cattle and hogs, who sells the products of his land at the highest prices, who buys the necessities of life at the lowest price, and thus, like the snow-ball, the further he rolls the larger he gets. Many persons consider Jay Gould as the most successful business man of the age, and if judged by the single standard of money alone, this opinion may be correct, but when we think of the throbbing brain, the aching heart, the tired limbs, the feverish body, the consuming ambition, that brought an untimely end at an age that ought to have been the full vigor of the prime of manhood, we must consider his life a failure, and class him among the slaves of fitful ambition that, moth-like, are allured to the consuming flame which attracts and then destroys.

The time has come when the agriculturist must step into the ranks alongside his fellow students of law, medicine, and theology. The foundation of his education must, like theirs, be laid in youth while the eye is bright, the memory clear, the perception quick, and the enthusiasm unbounded. He should be educated not only in the ordinary

branches, but in philosophy, chemistry, botany, and geology, and he should have a thorough knowledge of plant and animal life, of the laws of production and reproduction, and of the food necessary to promote animal and vegetable life. He should know and recognize the different species of grain, and grasses, note their condition, and give them such care and attention as will tend to their highest development; and at the same time deal death and destruction to their arch enemies, the poisonous weeds and bugs.

He should keep himself in touch and sympathy with the marts of trade and commerce, so that he may know the productions of the world and its demands. We live in an age of progress and development. Invention and machinery are changing the status of farm labor to such an extent that the successful farmer must supply his farm, his house, and his barn with the latest improved machinery for planting, cultivating, and harvesting his crops, for decreasing the labor in the house, and for taking care of the stock upon the most economic principles.

He should house and protect his stock, grain, and implements. His stock should be bred and raised with a well-defined result in view, and to this end all scrub stock should be rooted out. His house, barn, and outbuildings should be built and arranged for convenience, health, and comfort. He should keep an accurate account of his receipts and expenses, and should take a correct invoice at least once each year of all his property, both real and personal, and keep a summary of the same for reference and comparison from year to year.

There is no success without effort. Work is neither disgraceful nor unhealthy, but intelligent effort and educated labor will bring about far greater results than unremitting toil without any well defined plan of action or ultimate end to be attained. There are many lines of success in agriculture, and very few are able to make a success of all the lines. So I say to the young man, choose the line that suits you best; learn all you can about that line; make yourself master of the situation; choose the best; study its needs; its present, past, and future; improve it and cultivate it; aim high, and get the best results possible, and success will crown your efforts. The successful farmer of the future will not be measured by the number of acres in his farm, nor by the size of his bank account; but he will be the farmer who has the best improved farm, the neatest and most convenient buildings, and the most productive land, the best bearing orchard and vineyard, the best horses and cows, the finest sheep and hogs, the largest turkeys and chickens, the happiest wife and the prettiest children: whose home is the brightest; whose deeds of charity and benevolence extend over the widest range; where intelligence, education, and energy are the corner stones; where industry, economy, and enterprise adorn the portals, and where peace, happiness and contentment crown the edifice.—*J. C. Honnell, before the Brown County Farmers' Institutes*.

A WORLD'S FAIR SCHOOL.

The University of Chicago will organize during the summer special classes for the study of exhibits at the Columbian Exposition.

The courses of study contemplated follow somewhat the classification of exhibits, and are as follows:—

1. Agriculture, food and its accessories, forestry and forest products, and agricultural machinery and appliances.
2. Horticulture.
3. Live stock and domestic and wild animals.
4. Fish, fisheries, fish products, and apparatus of fishing.
5. Mines, mining, and metallurgy.
6. Transportation, railways, vessels, and vehicles.
7. Manufactures.
8. Electricity.
9. Fine arts, paintings, sculpture, architecture, and decoration.
10. Liberal arts, education, engineering, public works, construction, architecture, music, and the drama.
11. Ethnology, archaeology, and progress of labor and invention.

FARM NOTES FROM VARIOUS SOURCES.

Farmers will come to the front and be given important positions of trust and honor just in proportion as farmers have confidence and trust in each other.—*Our Grange Homes*.

The "good old times" upon the farm were times of most severe labor and of small rewards. The present generation is vastly better off than their fathers were, and if we continue upon our present lines of progress, our sons will have still better conditions of life.—*Prairie Farmer*.

We don't care how much we pay a man, if we can get the money back and a reasonable profit from his labor. As to "cheap help," in the ordinary sense of the word, the less we have around the better off we find ourselves. But the trouble, so far, has been to get the good man, at ever so good a price.—*Dr. Hoskins*.

The farmer cannot do very much business unless he employs help of some sort; and then comes this vexing matter of finding somebody who will do a fair and honest day's work, without constant supervision. There are thousands of people out of work, and they do not seem to know why. The worst of it is, they won't believe it, won't accept or won't heed it if you tell them plainly why they have nothing to do; and others say they would rather continue to loaf than to settle down to business.—*New York Tribune*.

Farmers must study to reduce the cost of production, and in doing so they must consider the little things, which, combined, make the crop a failure. It will pay any farmer to read about his business, for no matter how experienced he may be, there are many things he will never learn from his own experience. To the farmer engaged in dairying, reading is especially beneficial, because there are so many problems in dairy work which require scientific attainments to solve that many farmers can only hear of them through the reading of good papers and books.—*Farmers' Home Weekly*.

In the years that are past farmers have been taught that an educated man must be a professional man of some kind. They have been taught to associate the "educated man" too closely with mere book lore. While book knowledge is essential to a well rounded education, book knowledge alone may make a fool of a man. The highest type of education is that which combines the practical with the theoretical in such a way as to broaden the man and enable him to see more than one object in life, and not confine him self too closely to a single pet theory.—*New England Farmer*.

We have very little faith in the desirability of spending three or four years of one's life in acquiring a knowledge of the dead languages. There are plenty of methods of training which are in touch with practical every-day life which will do the work equally as well, and are of vastly more use than any dead languages. It is true that distinguished and learned scholars approve all this expenditure of time; but life is getting too full of events, and consequently too short, to be spent in this way. The entire system of teaching—rather cramming—in our schools and colleges is a burlesque on practical knowledge.—*Maryland Farmer*.

How many farmers know exactly what their income is every year? How many know what their expenditures will be? How long would a merchant be successful if he did not know to the dollar how his affairs stood? Is farming less of a business than store keeping? Does it not pay to keep accounts? Try it for one year and see. You will then know exactly where to save if you are exceeding your income. Do not leave all your work to hired help. No matter how good it may be, the eye of the boss is always needed to overlook things. The farmer's success depends much upon his wife. There should never be any waste from the kitchen: every crumb can be used to advantage. The accounts can be made to balance every year, even in hard times. But both farmer and farmer's wife must build their fences good and strong, and stop piling on brush.—*A Farmer's Wife*.

Many farmers buy implements which they ought not to buy, because they do not grow crops sufficiently large to warrant it. Be sure of this point before you invest. You may be implement as well as land poor.—Every farmer must do a little thinking for himself before endeavoring to

(Continued on page 118.)

CALENDAR.

Fall Term—September 15th to December 23rd.
 Winter Term—January 9th to March 31st.
 Spring Term—April 3rd to June 14th.
 June 14th, Commencement.
 1893-94.
 Fall Term—September 14th to December 22nd.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan., at once.

LOCAL MATTERS.

Kanout has gone!

Prof. Georgeson is expected next week.

The east greenhouse will this season be devoted exclusively to roses.

The Farm Department is seeding ten acres to orchard grass and red clover.

Professor Brown spent Saturday and Sunday with his family at Leavenworth.

Assistant Marlatt spent Friday of last week at the Methodist Conference at Baldwin.

Professors Popenoe, Lantz, Waiters, and Graham had business in Topeka within the week.

Dr. Mayo showed a number of visiting veterinarians about the College Thursday afternoon.

The Manhattan Horticultural Society held its monthly meeting in Horticultural Hall on Thursday.

The Eleventh Annual Exhibition of the Webster Literary Society will be given in the College Chapel next Saturday night.

There has been a great demand for soy beans this spring, the Agricultural Department having filled as many as thirty orders in a single day.

Assistants Marlatt and Sears have treated themselves to the Century Dictionary—the only two sets sold during the agent's visit to Manhattan.

The Farm Department has sold a yearling Jersey bull to Mr. T. P. Miller, of Manhattan, and a Jersey bull calf to Mr. R. Robertson, a dairyman of Sabetha.

Prof. Failyer's new roll-top desk is a handsome piece of furniture, and a convenience long needed in his office. Assistant Breese succeeds to the old one, for which he finds good use.

Unless all signs fail, spring is upon us. The buds are swelling, the grass is starting, the birds are migrating, while the wind blows a southerly gale which gives Old Winter such a shaking up as he has not had for a long time.

President Fairchild telephoned from Topeka last evening that the College appropriation bill had passed and awaited the Governor's signature. This will give to the College \$78,025, of which \$60,000 will be devoted to a Library Building and \$14,000 to a central steam heating plant.

Experimental oats were first planted on the College farm February 8th, and at intervals of eight days since then. The plantings will continue at like intervals until May 3rd, making nine sowings in all. The variety used is the Red Georgia, a sort recognized as among the best, and as nearly rust-proof as any. This seeding experiment has before been attempted by the Station, but owing to unfavorable conditions in the early spring was not concluded.

The Chapel exercises yesterday afternoon consisted of orations from members of the second division of the Fourth-year Class as follows: "The Citizen and His Government," Laura Day; "The Time That is Ours," Maude Gardiner; "Religious Intolerance in The Colonies," W. O. Lyon; "A Ruined Nation," Susie Hall; "The World of the Invisible," Ivy Harner; "An American," C. A. Kimball; "Another American, and What We Owe Him," T. E. Lyon; "Two Countries," Onie Hulett; "Some Problems of the Present," E. C. Abbott.

Prof. E. M. Shelton, '71, writes from Brisbane, Queensland, that he and his family have thus far never bewailed the day that they entered on the Australian venture. His children, six in number, are all in the schools which are good, only very "English, don't you know?" Their home is sit-

uated on the heights, overlooking the Brisbane River, and all the shipping of the port passes their door. Last year the Professor traveled over 11,000 miles, visiting all the agricultural centers, giving lectures and addresses. He is particularly interested in preserving pineapples and other fruits. In January, he visited an orchard where there were 27 varieties of fruits in bearing, including apples and pears. Pines bring the sum of six cents per dozen, and bananas two to four cents.—*The Eagle, Agricultural College, Mich.*

The bill releasing the College income fund has become a law. It reads as follows:—

AN ACT

For the relief of the Kansas State Agricultural College, and for the appropriation of certain money for its support.

Be it enacted by the Legislature of the State of Kansas:—

Section 1. That all money now in the State Treasury and hereafter paid therein during the fiscal years ending June 30, 1893, June 30, 1894, and June 30, 1895, received as interest on outstanding land contracts, and from investment and proceeds from the sale thereof as a permanent fund for the Kansas State Agricultural College, are hereby appropriated for the maintenance and support of the said State Agricultural College.

Section 2. The Auditor of the State is hereby authorized to draw his warrant on the State Treasurer for the sums specified in section one of this act, upon presentation of orders signed by the President and Secretary of the State Board of Regents of the Kansas State Agricultural College, as provided in chapter 141, laws of 1883.

Section 3. This act shall take effect and be in force from and after its publication in the official State paper.

Approved March 3, 1893.
 I, R. S. Osborn, Secretary of State of the State of Kansas, do hereby certify that the above is a true and correct copy of the original enrolled bill now on file in my office.

R. S. OSBORN,
 Secretary of State.

Professor Mason recently received from Mr. J. N. Rudrow, of Oskaloosa, Kan., two fine photographs of the great black walnut log that is to constitute a part of the Kansas exhibit at the World's Columbian Exhibition. This log was grown on the farm of P. W. Gowell, Leavenworth County. It is seventy inches in diameter at the smaller end and eighty-four at the larger, fifteen feet long, and is estimated to contain 3000 feet of lumber, board measure. It is regarded by experts as the largest and most perfect walnut log in the United States today. As nearly as can be ascertained by counting the annual rings of growth this tree was 572 years old. Mr. Rudrow represents a company that has been engaged for a number of years in buying black walnut logs and lumber for foreign shipment. He estimates the amount of walnut lumber shipped from Kansas to average 1,000,000 feet annually for the past twenty years. Kansas walnut is much superior to the product of the Southern States in hardness and beauty of grain, and is highly prized in European markets.

GRADUATES AND STUDENTS.

R. C. Hunter, Third-year in 1891-2, has gone to Wagoner, Indian Territory.

P. G. Keele, the whistler, student last year, has organized a farce comedy company.

M. H. Markcum, Second-year in 1890-1, is clerk of a Senate Committee at Topeka.

L. P. Holland, First-year, drops out of College this week to take up home work near Garden Plains.

J. O. Morse, '91, visited with College friends a few days this week. He is farming at home near Mound City.

John Davis, '90, Principal of the Wakefield Schools, is quite sick of pneumonia, and his brother from Lyons is with him.

Myrtle Romick, in Second-year classes last term, has gone to Pomona, California, with her mother, in hope of regaining her health.

L. S. Strickler, Third-year in 1890-1, has quit the ranch, and now superintends the unloading of vessels at San Pedro, California, wharves.

W. S. Arbuthnot, '91, called upon College friends this week, while in attendance upon the Kansas Veterinary Medical Association, in session at Manhattan, March 9th. Mr. Arbuthnot is practicing veterinary surgery at Belleville.

The Oklahoma Hawk of March 1st has a full and interesting write-up of the town of Stillwater, where the Agricultural College is situated. There is a fine picture of the proposed college building, with a number of cuts of prominent business men. It contains sketches of some former Manhattan people. Half a column is given to Frank A. Hutto ['85], who has been County Attorney

there, but has spent most of this winter in Washington, D. C., looking after the interests of Stillwater. Half a column is also given to Prof. Ed. M. Hutto, the successful Superintendent of the Stillwater Schools, who spent nearly four years in the College, was the Principal of several High Schools in Kansas, and traveled as a gospel singer with Evangelist G. W. Hall. Appreciative mention is also made of a third brother, W. W. Hutto, Professor of English in the Oklahoma Agricultural College, and a graduate of our College in 1891.—*Manhattan Nationalist*.

N. E. Lewis, '88, writes from Providence, R. I., where he spends six months with the Brown and Sharpe Manufacturing Co., the well-known manufacturers of machine tools. Mr. Lewis expects to soon resume his work as head draftsman with the Fox Machine Co., of Grand Rapids, Mich.

COLLEGE ORGANIZATIONS.

Student Editors.—M. F. Hulett, Edith McDowell, C. H. Thompson.

Young Men's Christian Association.—President, J. E. Thackrey; Vice-President, J. B. Thoburn; Recording Secretary, G. L. Melton; Corresponding Secretary, M. F. Hulett; Treasurer, E. J. Hartzler. Meets every Sunday at 3 o'clock P. M. in Horticultural Hall.

Scientific Club.—President, J. T. Willard; Vice-President, A. S. Hitchcock; Committee on Programs, J. T. Willard, ex officio, E. R. Nichols, A. S. Hitchcock; Secretary, Marie B. Senn; Treasurer, F. A. Marlatt. Meets on second and fourth Friday evenings of each month, in the Chemical Laboratory. Admits to membership advanced students and College officers.

Webster Society.—President, M. F. Hulett; Vice-President, C. F. Pruetze; Recording Secretary, J. M. Williams; Corresponding Secretary, J. Stingley; Treasurer, E. G. Gibson; Critic, M. W. McCrea; Marshal, G. A. Dean, Board of Directors, G. W. Smith, H. G. Pope, J. V. Patten, C. E. Shoup, C. S. Milburn. Meets every Saturday evening. Admits to membership gentlemen only.

Alpha Beta Society.—President, C. H. Thompson; Vice-President, Fred Hulse; Recording Secretary, Onie Hulett; Corresponding Secretary, Jennie Smith; Treasurer, A. E. Ridenour; Critic, Ivy F. Harner; Marshal, W. S. Trader; Board of Directors, C. H. Thompson, J. E. Thackrey, W. O. Lyon, Stella Kimball, Sadie Moore, C. M. Morgan, Onie Hulett. Meets Friday afternoon at 2:30 o'clock. Admits to membership both ladies and gentlemen.

Hamilton Society.—President, W. E. Smith; Vice-President, W. J. Yeoman; Recording Secretary, W. H. Painter; Corresponding Secretary, W. E. Hardy; Treasurer, R. K. Farrar; Critic, J. A. Rokes; Marshal, W. E. Phillips; Board of Directors, G. L. Melton, H. L. Pellet, I. Jones, C. D. Adams, B. M. Brown. Meets on Saturday evenings. Admits to membership gentlemen only.

Ionian Society.—President, Nora Newell; Vice-President, Kate Pierce; Recording Secretary, Margaretha Horn; Corresponding Secretary, Flora Day; Treasurer, Ida Pape; Marshal, Laura Day; Critic, Maude Knickerbocker; Board of Directors, Maude Knickerbocker, Mary Lyman, Olive Wilson. Meets Friday afternoon at 2:30 o'clock. Admits to membership ladies only.

March 3rd.
 The Ionic Society was called to order by Vice-president Pierce. Olive Wilson and Laura Day opened the program with an excellent instrumental duet. An entertaining number of the Oracle, with the motto, "There's nothing original in me but original sin," was presented by Kate Pierce. Among some of the best contributions were, "Dream," "A Girl's School days," "Marriage Statistics," "Locals," "Quer People." Edith McDowell, committee on extemporaneous speaking, asked Susie Hall to give her views on "Uniformity in Text-books." Miss Pinckney spoke on "The Afternoon Rhetoricals." Ida Pape discussed "Dancing." Marie Haulenbeck gave her views on the "New Styles of Dress," approving the pretty Empire dresses, but not liking crinoline; and Nora Newell gave a "Mental Picture of the Four Classes." Kate Pierce sang a solo, "Seidon's Cuckoo Song," Laura Day accompanist, which was warmly applauded. Maude Knickerbocker read a nicely blended medley entitled, "What is it?" that was greatly appreciated. A vocal solo, "The Little Tin Soldiers," was rendered by Nora Newell, Elsie Crump at the piano; Music Committee, Blanche Hayes. Report of committees; Critic's report; roll-call with quotations; adjournment. F. D.

March 3rd.
 The Alpha Beta Society was called to order by President Thompson. Music, "The Boatman's Song," by Maude Parker and Jennie Smith. Elva Palmer led the Society in devotion. Miss Gardner's oration was interesting and well delivered. Debate on the question, "Resolved, that Benj. F. Butler was a greater statesman than James G. Blaine," was argued on the affirmative by Stella Kimball and W. Harling; on the negative by C. M. Morgan and Mr. Spaulding. Butler's character as a private man was shown by the affirmative to be good, and his career as a public person was quite noticeable. At twenty seven years of age as a lawyer in the Supreme Court he was a most always successful, and before he entered the army he had made the enviable reputation of being the best lawyer in Washington. He was in the House of Representatives, in Congress ten years, and, after this, Governor of Massachusetts, being elected in 1882, when every other candidate on that ticket was defeated, showing his popularity. Although Blaine made many speeches they were not remarkable enough to live long, and he never was connected with any striking movement until late in his career, when he became the champion of reciprocity. He was a standing candidate for the presidency, and a proof of his unpopularity is that in 1884 he was defeated for the presidency and broke a long line of republican rulers. It was also said that it was not personal ability that gained for Blaine his high position. The negative thought that the ability of Blaine as a statesman was so far superior to that of Butler that no comparison would have been thought of had not their deaths occurred so nearly at the same time. Blaine was speaker in the House three terms, the only instance on record of this honor being conferred on one man. He was next in the Senate, and finally Secretary of State, both to Garfield and Harrison. His name is connected with many political measures, while Butler's is not. To Blaine probably due the success of the fourteenth department. He was exhaustive in his work, persistent and far seeing. As

Butler's chances of being elected to office changed from one party to another, he also changed his politics, being now a Democrat and now Greenbacker. He could not be depended upon. The Judges, Misses Gardiner, Willard, and Parkinson, decided in favor of the negative. The Gleaner was read by Bertha Steele. The orders of recess and music were passed, and the Society was entertained by a speech from Professor Hood, who gave a very interesting talk on James Whitcomb Riley and his work, reading several selections to illustrate the character of this poet's writings. After this were the orders of assignment of duties, report of Critic and general criticisms, reading of the minutes, and music. Adjournment. J. S.

March 4th.

The Hamiltons were called to order at the usual time by Vice-President Yeoman. Roll-call. Devotion, R. H. Farrar. Mr. Phillips, marshal, having left College, Mr. Peter was elected to fill the vacancy. After declamations by L. J. Thompson and J. A. Scheel, and essays by C. D. Lesley and C. F. Doane, was debate on the question, "Should Santa Claus do away with his sleigh and reindeers and get a better mode of delivering Christmas presents?" A. D. Benson and W. E. Bryan for the affirmative said that as Christmas was now celebrated in many torrid regions where the reindeer could not possibly convey Santa, he must change his mode of travel or slight some of his admirers. He might also while traveling through these half-civilized countries do a great deal of good by distributing Bibles and tracts. It was also claimed that if he made this change, he would solve the question of aerial navigation, as that is the only way suited to him. For the negative, C. D. Adams and J. W. Holland replied that in these regions where no snow fell the inhabitants could not really have a Christmas celebration, for what is Christmas without snow. The old-fashioned customs should be kept up in their original simplicity, as they tend to spread a feeling of charity and brotherly feeling. Santa could not be induced to change; he must dearly love his reindeers by this time. They also claimed that it was ridiculous to think of him in any other way except as we have known him since childhood. Judges Farrar, Conrad, and Otten decided unanimously in favor of the negative. Oration, R. J. Barnett, on the subject "Start a Student Paper." The music by the Hamilton Mandolin and Guitar Quartette was enjoyed by all, and heartily encored. After ten minutes, recess, W. H. Painter gave a very amusing select reading about the "Cremating Process." Music, violin, solo, by C. D. Lesley, F. A. Dawley, committee, was followed by unfinished and new business till after the stated time of adjournment. Adjournment. R. J. Barnett, Secy. Pro. Tem.

March 4th.

A pleasant evening brought out a goodly number of Websters, and with M. F. Hulett in the chair proceeded to business. Roll-call. Prayer by H. G. Pope. After reading and adopting the minutes of the previous meeting, the regular programme was taken up. This being the day for the Presidential inauguration, the programme was in that line. As is always the case, the debate came first, on the question "That the Indian has more right to complain of the treatment of the white man than has the Negro." The affirmative was argued by C. H. Paul and E. A. Donaven; the negative by C. D. McCauley and R. J. Peck. The question was one which every true American has, or should have, more or less interest. The affirmative were of the opinion that the Indian has been mistreated from the arrival of the Mayflower till the present time. Had they been treated properly, they would never have given any trouble, as is proved by the case of William Penn. Again, they have never, in any way, been improved by the coming of the white man, while the Negro has been improved at every turn. Wherever he has come in contact with the white people, their influence can be plainly seen. The negative claimed that the Indian had no right to America in the first place, that he had not acquired it by any of the ways specified in common law, and hence the whites were not doing an injustice when they took possession of this continent. D. C. Arnold read an essay on "Cleveland's Inauguration," in which he proved close relationship between some Websters and the President of the U. S. J. W. Evans' oration on "Cleveland's last Administration," in which he pointed out some of its errors, was followed by a declamation, "Onward the Light Brigade," by C. V. Wycoff, after which Archie Robertson, in an oration, reviewed "Harrison's Administration," discussing the main points pro and con, and the programme was closed with a declamation by F. Rummel, on "President Harrison." After the regular routine of business, the Society adjourned at 10:30. J. S.

ENDOW OUR AGRICULTURAL COLLEGES.

Rich men, when they are about to die, are apt to begin to think about giving to the church, or endowing some classical college. They overlook everything pertaining to the agricultural community, which enables them to sustain life, and makes a business for them; for without agriculture, none of the other kinds of business could have an existence. There are a few notable examples, like the late Mr. Thompson, of Durham, who recognize the foundation principles of civilization and seek to promote agriculture, and we hope the future will not be devoid of men who will remember the source of wealth, and work while living, as well as giving their fortunes when they die, for the promotion of agriculture.

Prof. W. A. Henry, in a timely communication to the *Breeder's Gazette*, calls attention to an example worthy of imitation. It is that of Senator-elect, John L. Mitchell, of Wisconsin. The Professor says: "Several years since, Mr. Mitchell began his visits to our College, and it was not long until he had a better knowledge of what we were doing than most of the farmers of our State.

Out of this knowledge, and his love for agriculture, grew a benefaction which is proving of the greatest importance to our College of Agriculture at this time. This week, I received from Mr. Mitchell a check of \$2,000, and immediately turned this over in sums of \$50 each to forty young men—farmers' sons—who are pursuing the short course in agriculture with us this winter."

Now, this is a benefaction in the right direction and in a practical way. It is to help forty young men get a scientific knowledge of the needs and principles of agriculture, and thus help to build up a more intelligent and higher farming community. We cannot elevate our agriculture without making the farming community more intelligent, and in thus promoting the cause of agriculture we are aiding in building up every other line of business.

As Prof. Henry says: "It has so long been the fashion to educate boys off the farm that it will take some steadfast resolution to effect this change of direction." No doubt Mr. Mitchell could have given his money easier to some city purpose. He did considerable investigating and thinking before he directed the disbursing of a dollar, and the direction of his gift was not the popular one, judging from what others do. Already he has received the thanks of thousands for his independence in giving, and so too may the fathers who are helping their sons to the agricultural college by taking this new step, start our people in a new line of thinking and set a fashion worthy of many followers. Where there is one Mitchell able to help forty young men each winter to our agricultural colleges should there not be a thousand and fathers each able to help a son to the same sort of useful education? May these words stir the hearts of thousands of rich men to good deeds. —*Mirror and Farmer.*

FARM NOTES FROM VARIOUS SOURCES.

(Continued from page 116.)

apply the advice of agricultural teachers and writers. One matter that each must look to is the adjustment of such advice so that it will fit his own latitude and longitude.—If the farms in general throughout any given section were as well cultivated as are the few exceptional ones, we should have a much higher standard of agriculture. These exceptional farms should be noted, visited, and their methods studied.—Consider that it is your business to do certain things at certain times, and let nothing interfere with its performance. Remember that you yourself sometimes get restless when your dinner is not on time.—*Our Grange Homes.*

Educate the children to something useful, and in after life they will rise up and call you blessed. In this connection it may be in place to say that a farm boy should be taught farm management. Give him a share in the planning, and so train him that when he comes to man's years, he will be fully equipped for his noble calling.—*Western Farmer and Stockman.*

A farmer's surroundings reflect his character. The fewer the fences, the less you will have to repair.

Good care would double the life of most farm machinery.

The scrub is tough, and toughness is about all of value there is of him.

Keep abreast of the times in thought and deed; no harm if you lead a little.

Everybody is talking about roads, but who is doing anything to make them better?

Neglect, as well as bad luck, makes hard times.

Good farmers are always good readers and thinkers.

The farmer cannot know too much about his occupation, but he may know too much that isn't so.—*Mirror and Farmer.*

Now is the time to take an inventory of stock, etc., and to figure up and see if you have "made both ends meet" during the past year. It is a good plan to draw a map of the farm at the end of each year, showing location of crop; and the price of each may be put down on the map, together with dimensions of field, and other data. Then one may see at a glance how each crop turned out, and where the fields may be bettered in the future. Such a map is a great addition to a well-kept account book, and, by the way, a farmer's ac-

count must be kept in a business-like manner, but must necessarily be a little different from that of the general run of business men. Being engaged in market gardening and varied farming, my plan of keeping accounts is like this: I put the returns of every load taken to market (together with date and price of each item) in regular order, then when the season is over, put each article down—corn, tomatoes, etc.—with date and price by themselves. Now is the time to plan for the coming season, and stick to your plans.—*Farm and Home.*

The selection of Governor Robinson as one of the Regents of the State University will be well received throughout the State, and will be gratifying to those directly interested in the University. The Governor has always been a firm friend to the institution, and has done much for its success. He can afford to give the time and attention necessary to the work, and he will do it. He has the advantage in the beginning of a thorough knowledge of the work, and is in warm sympathy with the Chancellor and the other workers. The appointment is a wise and a good one.—*Lawrence Journal.*

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The Experiment Station should be addressed through the Secretary.

OUR NATIONAL FLAG.

BY PROF. E. B. BOLTON,

[Captain 23rd Infantry, U. S. A.]

EVERY school boy in the land will readily recognize the U. S. flag by sight, and perhaps tell you it is the emblem of freedom, independence, and justice. It is rapidly becoming viewed in a national aspect, like the cross in an individual, as the symbol of a God-fearing, Christ-loving people; but the history of the custom of flags in general, and of the origin of this particular banner, which is comparatively so young in years, and yet so resplendent in her glory, may probably not be so well known.

Flags, as used by all nations at this day, are the development of a custom growing out of a military necessity which obtained in the early stages of the association of individual families into bands, and these again into larger bodies for warlike purposes. In those days systematic military discipline was unknown, but to prevent confusion when bands assembled together for self protection, or to undertake military expeditions, some conspicuous object had to be used when in camp, on the march, or in battle, to designate the whereabouts of the leader, or the rallying point of each separate band; and, in order to see it more readily, it was hoisted above the heads of the multitude on the point of a pike. The objects thus used at first were simple, and probably had no other significance than that of keeping the individual members of each band together; but constant association of the different bands soon connected in mind the standard used by the other as in a measure representing its particular followers, which awakened emulation among the individual members, and incited them to strive to make their own standard the most honored of all. This, indeed, was the origin and advanced stages of military organization at that time, when the kind of weapons used necessitated hand-to-hand conflict, and each man had to seek his individual antagonist in single combat.

As tribes developed into nations, the symbols borne on the end of the pikes were characteristic designs, and the office of bearing them was made a special trust of greatest privilege and honor. The Egyptians used a sacred animal, or some other object which inspired the men with feelings of awe and devotion. The Carian soldier who slew Cyrus was accorded the honor of carrying a golden cock at the head of the army—it being a custom of the Carians to wear that bird as a crest on their helmets. The Greeks used a piece of armor, Romulus a bundle of hay, the Romans an eagle, which was the object of their fondest devotion, but the Golden Eagle being regarded by Jews and Christians with all the abhorrence of an idolatrous image, the Romans under Constantine adopted a new standard which displayed the triumph of the Cross. The Crusaders made the Cross a favorite standard throughout all Europe. A square piece of cloth fastened to a staff and fixed cross-ways to the end of a spear was the Roman vexillum, and was given to each soldier who specially distinguished himself in martial feats.

We are told that the Roman standards were guarded with religious veneration in the temples at Rome; that their reverence for their ensigns was in proportion to their superiority over other nations in all that tends to success in war, and that it was not unusual for a general to cause a standard to fall into the hands of the enemy purposely to add zeal to the onset of his soldiers by exciting them to recover what to them was perhaps the most sacred thing the earth possessed. It cannot be doubted that standards, or their equivalents, have often served, by reminding men of past resolves, past deeds, past heroes, to rouse to enthusiasm those sentiments of esprit-de-corps, of family pride and honor, of personal devotion, patriotism or religion, upon which, as well as upon good leadership, discipline, and numerical force, success in warfare depends.

During the feudal ages when each knight was known only by his coat of arms, and heraldry attained to definite customs, drapery came into vogue, because mottoes and devices could readily be inscribed, in different colors, upon its ample surface. The beautiful curves, too, which its soft folds described while floating to and fro under the influence of a gentle breeze, must have added some weight in favoring its adoption.

The acquisition of a kingdom became eventually an acknowledged reward for the superior prowess and personal cunning of the most valiant old knight, and his flag was adopted by all faithful followers throughout the domain of his territory, to attest their loyalty, and manifest submission to his royal sway. Hence the origin and history of the use of flags.

MEAT INSPECTION.

BY PROF. N. S. MAYO.

WHILE we are studying the question of what we shall eat and what we shall drink if cholera comes, it may not be amiss to consider other diseases aside from cholera that are acquired by eating infected food.

There seems to be a well-defined opinion expressed by those who have given the subject careful study, that there ought to be a thorough system of meat inspection to protect the consumer from diseases which are caused by eating diseased meat. At present the distance from the producer to the consumer is so great, and the way so devious, that few stop to inquire whether the meat they consume is free from dangerous diseases.

The question as to what meat is suitable for food, and what should be condemned, is somewhat difficult to define, but it must ultimately turn upon the point whether it will be injurious to the consumer. At present the people of this country are practically at the mercy of the producer as regards the use of diseased meat.

It is true that most animals which are suffering from a disease which the owner thinks renders it unfit for food are destroyed, but the owner's judgment may be in error; and in some cases dangerously diseased meat is knowingly placed upon the market. There are some diseases which can be recognized before death as rendering the flesh dangerous as a food, such as "blood poisoning," anthrax, swine plague, or hog cholera, hydrocephalus and tuberculosis of cattle, or any disease where there is a high fever or general emaciation.

There are also some diseases which cannot be detected except by post mortem, and among those that may be recognized by the naked eye is one known as "measly meat" where there are numbers of small yellowish specks scattered through the meat. These specks are an encysted form of some tape worm, and unless thoroughly cooked, they will "hatch" and become mature pustules within the individual that eats them.

Another disease which cannot be recognized ordinarily either before death or afterward is trichinosis, a disease due to the presence of a minute round worm (*Trichina spiralis*) in the tissues. The encysted trichinae are found in the muscles of the hogs, and when eaten, unless destroyed by cooking, they soon mature and give birth to large numbers of young individuals which rapidly spread throughout the body, causing great suffering and death.

bore their way through the tissues into nearly all parts of the body, and give rise to serious disturbance,—the symptoms being a soreness of the muscles and high fever,—and very often cause death. The presence of trichinæ in hogs is more prevalent than is generally supposed. At Kansas City, Kansas, where 1300 to 1500 hogs are inspected daily, 30 to 90 hogs are found affected with these parasites. What becomes of this affected meat I cannot say. I was told that "it is not exported."

It is to be hoped the time is not far distant when the system prevailing in most European countries will be adopted here—that of having a public slaughter house, or abattoir, where all animals slaughtered shall be inspected by a competent person. Until this system shall prevail, the greatest safe-guard against these various diseases is thorough cooking of our meat.

THE NEW COLUMBIAN STAMPS. VI.

BY PROF. A. S. HITCHCOCK.

MENTION has already been made of the chance visit of Columbus to the convent of La Rabida, near Palos, in southwestern Spain. The engraving on the thirty-cent stamps shows him expounding his theory to a group of friars.

Of course the basis of his theory was the rotundity of the earth, a fact which had been known to astronomers for ages, but which was stoutly denied and hotly contested by many of the learned men before whom the matter was brought, especially by the pious ecclesiastics, who felt that such doctrines were contrary to the teachings of Scripture.

He divided the circumference of the earth, as is done at present, into twenty-four parts or hours of fifteen degrees each, and calculated that the known portion, extending from the Azores to the eastern limits in Central Asia, comprised sixteen of the parts, or two-thirds of the entire circumference. The total distance he computed to equal 16,227 of our nautical miles instead of 21,600. The earth, then, is a third larger than was supposed by the geographers of the fifteenth century, the error being due to the incorrect determination of the degree of longitude. Supposing, however, that the distance between the Azores and the eastern limits of the known world is eight thousand miles, the actual expanse of ocean would be much less because of the eastern extension of Asia for an unknown distance. For this indefinite Asiatic region, Columbus drew largely upon the somewhat mythical narrative of Marco Polo. Had the bold navigator known the distance which separated western Europe and eastern Asia, even he would scarcely have ventured to undertake the voyage. This happy error was apparently confirmed when land was discovered after an estimated sail of 3535 miles to the westward, and Columbus died with the supposition that Cuba was the most eastern point of Asia.

All these things, and many more, Columbus is explaining to his six listeners, with the help of charts and a mounted globe. On the floor is a small stove, which, Prof. Hood informs me, represents the type used for ages in Europe and still earlier in the East, and consists of a box containing well-ignited charcoal. This specimen stands on four short legs, and supports a boiling tea-kettle. The engraving is coarser than that of the other values.

The fifty-cent value takes us beyond all the scenes represented on the lower values. Columbus has made his grand discovery and returned in triumph to receive the congratulations of sovereigns and populace. He has made a second voyage, with seventeen vessels and fifteen hundred men, discovered Dominica and the Windward Islands to the north, Porto Rico, Cuba, and Jamaica, founded a colony in Hayti, and returned to Spain with many of the discontented colonists, where he finds that intrigues at court have already undermined his popularity. He has made still a

third effort, sailing with six ships manned mostly by released criminals, has discovered Trinidad and the north coast of South America, and has finally returned to Hayti to find the colony much disorganized by a formidable rebellion. This brings us to the year 1498. During the next two years the Admiral was kept busy in restoring tranquility. At home, his enemies had so successfully misrepresented his actions and the disturbed state of the colony that, as before stated, Bobadilla was sent by the Spanish Government in 1500 to investigate the causes of the difficulties and to arrest all culpable persons.

Bobadilla, being one of those shallow persons who are puffed up by a little authority, and knowing that the conviction of Columbus meant the transfer of the government to himself, had in his own mind already found the Admiral guilty of all the charges brought against him by his enemies. Columbus was absent at the time of Bobadilla's arrival, but the latter at once took command of the colony and proceeded to investigate afterwards. He sent "Francisco Velasquez, deputy treasurer, and Juan de Trasierra, a Franciscan friar," to Bonao, where Columbus then sojourned, who read a letter from the sovereigns, "commanding him to give implicit faith and obedience to Bobadilla, and delivered, at the same time, a summons from the latter to appear immediately before him." This is probably the scene represented on the stamps, the "recall of Columbus."

(To be continued)

WORK IN SEASON IN THE ORCHARD.

BY PROF. E. A. POPENO.

AN hour's walk, the other day, through an apple orchard two years planted, suggested the value of steps in time in the war against injurious insects. The trees in this orchard grew thrifly during summer among the corn planted between the rows, and, though often examined, showed no prominent mark of insect work during the season of growth, except that toward the end of summer a few were attacked by the caterpillars of the handmaid moth.

Now, however, the foliage no longer biding them, the cases of certain leaf-feeding insects were visible, dangling from the twigs, and were easily removed in the hour's time from 400 trees. The insects discovered were of two kinds, the apple leaf-crumper, now in the larval stage, in little brown curved cases hidden in crumpled leaves, and the tussock moth, represented by egg clusters, also attached to dead leaves hanging by silken bands from the twigs. The apple leaf-crumper showed a preference for low, twiggy trees, the Missouri Pippin seemingly being specially attacked, while the Tussock moth was not evidently choice as to variety, the egg clusters of the female and the empty cocoons of the male being found upon all alike, though not numerously upon any.

These two species of leaf-eating caterpillars seem to be generally distributed throughout eastern Kansas, and as by their winter condition, indicated by the foregoing, they are wholly at the mercy of the tree-grower, their abundant presence is to be regarded as an evidence of carelessness. As I have learned by repeated experience, it is quite easy, in young orchards, to prevent the increase of the apple leaf-crumper by attention each winter to the collection of the rolled leaves. The Tussock moth, however, is not restricted to the apple tree alone, but occurs on other trees which commonly grow in the neighborhood of the orchard, in the wind break, or on the lawn—the elm, for example, being frequently attacked. Therefore, while the removal of the leaves bearing the egg cluster is important, it is not so thoroughly satisfactory a measure in this as in the other case, the caterpillars here finding their way into a clean orchard from neighboring growth.

While general considerations may not call for

the use of the spraying machine in the young orchard, as the above and other important insect pests may be readily controlled by other means, it may be stated here that in bearing orchards where Paris green is applied in a spray against the codlin moth, the apple leaf-crumper and the Tussock caterpillar are also destroyed, as are the various other apple leaf feeders of the spring and early summer.—*Kansas Farmer*.

FARM NOTES FROM VARIOUS SOURCES.

Are farmers as a class thoroughly loyal to their calling?—*Our Grange Homes*.

Fat, sleek horses keep cheaply. It is the bony, hungry beast that is costly at the crib.—*Farm Journal*.

There is no use sending poor or common, or even fair stock to market and expecting it to sell at the top figure, for it will not do it.

Fruit is nature's tonic.—The thinking farmer is the one that makes money.—Interest the boy in the farm and he will not want to leave it.—*Western Farmer and Stockman*.

We have come to the time when the science of farming must be studied. It is the only road toward regular crops and high yields, and it is only by means of these that any success can be obtained.

One of the first tasks of the progressive farmer is to find out, by judging from the antecedents of each piece of land, or from planting tests, the true condition of the soil, and then to apply the needed plant-food.

We may discourse and write most learnedly about intensive farming, but when we succeed at it in a practical way, then we understand and appreciate the results of intelligent and aggressive methods.—*Texas Farmer*.

Many farmers are so absorbed in their daily routine of work that they think they cannot afford to spend a minute for recreation or for education in the very lines of work in which they are engaged. Long days and muscle are much smaller factors in successful farming than intelligent thought and discretion if properly applied to the business.—*Our Grange Homes*.

I say understandingly that the young people of our country who will bring to agriculture the intelligence, industry, and perseverance essential to success in every other career, whether mercantile, industrial, or professional, will in the course of the next twenty years attain a far greater degree of material well being, on the average, than awaits them in any other calling.—*J. M. Rusk*.

The manufacturer has this advantage over the farmer: His business is in a single line; the farmer's in many. The manufacturer controls conditions; the farmer cannot, except in part. The manufacturer puts his raw material into a machine, knowing it is impossible, if the machine is kept in perfect working order, for it to come out in any other form except as the machine was constructed to do it. The farmer must deal with the laws that govern each of his lines.—*G. T. Powell*.

Farmers were intended by the Creator to enjoy themselves above all other men. Just where the Creator planned to have the farmers' wives come in is not so plain. But the strangest part of the whole affair is that a man who is so well situated for having a good time will make himself miserable by a continued prostitution of his imagination. A man's imagination is his worst enemy when it defrauds him with a story that he is worse off than his fellows. Prohibitory laws will never be complete till they prohibit the use of such imaginations.—*Field and Farm*.

Agricultural colleges are doing a work of in-calculable good in the broad and liberal educations which they furnish to farmers' sons and daughters. But these young people are not the only ones who need educating. Often their fathers and mothers need it quite as badly, and many times the old folks would make the better use of education if they had it. They would most certainly better improve any opportunities afforded them in that direction. The recognition by the farmers that they have something to learn themselves is one of the most hopeful lights in the agricultural heavens.—*Field and Farm*.

CALENDAR.

1892-93.
Fall Term—September 15th to December 23rd.
Winter Term—January 9th to March 31st.
Spring Term—April 3rd to June 14th.
June 14th, Commencement.
1893-94.
Fall Term—September 14th to December 22nd.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan., at once.

LOCAL MATTERS.

Many graduates are here for the Webster Exhibition this evening.

Cadet target practice was abandoned yesterday afternoon by reason of bad weather.

"Walker's Political Economy, briefer course" is a new text-book for the Fourth-year Class.

A number of students celebrated St. Patrick's day in a quiet way by "the wearing of the green."

Prof. Olin's lecture at Effingham before the Atchison County High School, March 3rd, was a success.

The Horticultural and Entomological Laboratories and the Horticultural class-room are now heated by hot water.

The furniture in the Reception Room looks much better for the new upholstering to which it has just been treated.

A telegram from Prof. Georgeson announces his arrival at Washington, where he will remain until he completes his report.

The College Young Men's Christian Association held a meeting down town Wednesday evening to greet State Secretary Wilber.

The Websters turned out en masse and took possession of the Printing Office yesterday afternoon to put the finishing touches to the programmes for tonight's exhibition.

Mr. Conry, a machinist from Topeka, is employed in the iron shop in the construction of the machine for exhibiting the College's large collection of photographs at the World's Fair.

In some manner, as yet unknown, a fire was started in the grass south of the Main building last Saturday afternoon, and a strong wind carried it rapidly to the east end of the grounds, scorching quite a number of trees and shrubs.

The State Board of Public Works, with Architect Haskell, visited the College yesterday for a general inspection prior to the preparation of plans for the new buildings, hoping to be ready to let contracts early in June, as the buildings are to be completed by July 1st, 1894.

The Carpenter Shop is the scene of great activity. Besides the host of students' jobs, there are on hand a great number of cases for our exhibit at the Columbian Exposition, on which four workmen from town are engaged. The finishing touches are being given to the propagating pits, entomological cases are fairly under way, and patterns innumerable are to be found on every side.

Capt. Bolton took for his topic yesterday afternoon "The Nicaragua Canal," in which great interest centers just now. As illustrated and explained, it was evident to all that the construction of the canal, though a stupendous undertaking, presented no insuperable obstacles to the engineering skill of the age properly backed, as it is, by the necessary capital. The value of the canal to American interests was made apparent.

In remembering the efforts of friends to make the wants of the College understood in the Legislature, with the result elsewhere shown in the act approved March 11th, some are worthy of special mention. In the Legislature, besides Representative Knipe, whose diligence in College interests could not be surpassed, and Senator True of this district, effective work was done by Senator Senn, of Dickinson County and Representative Coulson, of Harper County, both of whom understood the College work and needs through their children. Regents Moore and Wheeler of the old Board, and Regents Secret and Stafford of the new, gave time and effort at most important points in the progress of the bill to making its importance known. Regent

Moore may have the privilege of remembering that the last weeks of his eight years of service as a Regent were devoted to a successful struggle for the growth of the College. All interested will bear in grateful remembrance the efforts of these and other friends and neighbors who have aided the good work.

An impression seems current that this College and Experiment Station is a general distributing point for farm and garden seeds. This is not the case. Certain kinds of seeds which the officers of the Station desire to have tested in various portions of the State are distributed from time to time, but the Station is in no sense a depot for the general distribution of seeds. It is hoped that this announcement will operate to save many postage stamps to those who write for seeds.

GRADUATES AND STUDENTS.

Laura McKeen enters College again this week.

Rosa Fiances, student last year, died of pneumonia, at her home in St. Clere on March 5th.

W. S. Trader, Second-year, drops out of College to work at the Rock Island depot in Manhattan.

W. E. Lea, student in 1888-9, spent a few hours showing friends around College Wednesday. He now lives at Blue Rapids.

Mrs. Nellie E. Cottrell-Stiles, '87, visited with friends at the College a few days this week, after an absence of several years.

H. M. Cottrell, '84, Superintendent of Ellerslie Stock Farm, Rhinecliff, N. Y., writes: "When you come East drop in and see our new \$50,000 barn. It is the best barn I have ever seen, and it is needless to say that I lost many hours of sleep while planning it. We have just sent five Guernseys to Chicago to enter the breed test."

E. A. Munger, First-year in 1887, is now proprietor of the handsome new hotel known as the "Howard," located on the corner of 61st Street and Washington Avenue, Chicago. The hotel is just two blocks from the World's Columbian Exposition grounds, and is one of the most convenient in the city for the visitor and sightseer. Mr. Munger will be glad to welcome his old Kansas friends, and all others to his hotel. His office at present is at No. 1018 Chamber of Commerce.

Mr. F. A. Waugh, a graduate of the Kansas State Agricultural College, has just been chosen to the professorship of horticulture and entomology in the Oklahoma Agricultural College. Prof. Waugh was a farmer's boy of McPherson County. By diligence and application he made a fine record in College, and was graduated one of the brightest of the many bright young men who have enjoyed the advantages of our State Agricultural College. Since graduation his work has been largely that of a writer for the agricultural press. His contributions to the *Kansas Farmer* have in every case been entertaining and instructive. He has also written for the agricultural columns of the *Weekly Capital*, and just before his election to the Oklahoma professorship, had been employed as editor of the *Field and Farm*, the leading agricultural paper of Colorado. The *Kansas Farmer* congratulates the Oklahoma College on its acquisition of the valuable services of Prof. Waugh.—*Kansas Farmer*.

AN ACT

Making appropriations for the Kansas State Agricultural College. Be it enacted by the Legislature of the State of Kansas:—

Section 1. The following sums, or so much thereof as may be necessary for the purposes named, are hereby appropriated out of any money in the State Treasury not otherwise appropriated, and, unless otherwise provided by law, under the direction of the Board of Regents of the Agricultural College: For incidental expense incurred in care of funds during the five years ending June 30th, 1895, the sum of \$425, to be available as needed. For general repairs during the fiscal year ending June 30, 1893, five hundred dollars. For the fiscal year ending June 30, 1894, for general repairs on buildings, plumbing, and steam fitting, \$1,000; for construction of a library and agricultural science hall, and for permanent cases, shelving, steam fitting, plumbing, and fixtures for the same, \$60,000; for construction of general steam plant for heat and power, \$14,000; for annual water supply, \$500; for salary of loan commissioner, \$300. For the fiscal year ending June 30, 1895, for general repairs on buildings, plumbing, steam fitting, \$1,000; for annual water supply, \$500; for loan commissioner's salary, \$300.

Section 2. The Auditor of State is hereby authorized to draw his warrants upon the Treasurer of State for the purposes and amounts specified in Section 1 of this act, or so much thereof as may be necessary to liquidate any indebtedness incurred, or obligation contracted, in accordance with the provisions hereof.

Section 3. This act shall take effect and be in force from and after its publication in the Statute Book.

COLLEGE ORGANIZATIONS.

Student Editors.—M. F. Hulett, Edith McDowell, C. H. Thompson.

Young Men's Christian Association.—President, J. E. Thackrey; Vice-President, J. B. Thoburn; Recording Secretary, G. L. Melton; Corresponding Secretary, M. F. Hulett; Treasurer, E. J. Hartzler. Meets every Sunday at 3 o'clock P. M. in Horticultural Hall.

Scientific Club.—President, J. T. Willard; Vice-President, A. S. Hitchcock; Committee on Programs, J. T. Willard, ex officio, E. R. Nichols, A. S. Hitchcock; Secretary, Marie B. Senn; Treasurer, F. A. Mariott. Meets on second and fourth Friday evenings of each month, in the Chemical Laboratory. Admits to membership advanced students and College officers.

Alpha Beta Society.—President, C. H. Thompson; Vice-President, Fred Hulse; Recording Secretary, Onie Hulett; Corresponding Secretary, Jennie Smith; Treasurer, A. E. Hidenour; Critic, Ivy F. Harner; Marshal, Con Ruck; Board of Directors, C. H. Thompson, J. E. Thackrey, W. O. Lyon, Stella Kimball, Sadie Moore, C. M. Morgan, Onie Hulett. Meets Friday afternoon at 2:30 o'clock. Admits to membership both ladies and gentlemen.

Webster Society.—President, M. F. Hulett; Vice-President, C. F. Puetze; Recording Secretary, J. M. Williams; Corresponding Secretary, J. Stingley; Treasurer, E. G. Gibson; Critic, M. W. McCreas; Marshal, G. A. Dean, Board of Directors, G. W. Smith, H. G. Pope, J. V. Patten, C. E. Shoup, C. S. Milburn. Meets every Saturday evening. Admits to membership gentlemen only.

Hamilton Society.—President, W. E. Smith; Vice-President, W. J. Yeoman; Recording Secretary, W. H. Painter; Corresponding Secretary, W. E. Hardy; Treasurer, R. K. Farrar; Critic, J. A. Rokes; Marshal, W. E. Phillips; Board of Directors, G. L. Melton, H. L. Pellet, I. Jones, C. D. Adams, B. M. Brown. Meets on Saturday evenings. Admits to membership gentlemen only.

Ionian Society.—President, Nora Newell; Vice-President, Kate Pierce; Recording Secretary, Margaretha Horn; Corresponding Secretary, Flora Day; Treasurer, Ida Pape; Marshal, Laura Day; Critic, Maude Knickerbocker; Board of Directors, Maude Knickerbocker, Mary Lyman, Olive Wilson. Meets Friday afternoon at 2:30 o'clock. Admits to membership ladies only.

March 11th.

The Hamilton Society was called to order by President Smith. After roll-call, G. G. Boardman led in prayer. Mr. Einrich opened the programme by delivering a declamation. J. A. Eicher read a well-written essay on the "Religious Sentiments of the Chinese." W. J. Yeoman was music committee for the evening. He first had Jones and Calhoun favor the Society with a vocal quartet, J. D. Riddell at the piano. The question debated was "Resolved, That S. F. B. Morse rendered a greater service to mankind than did Eli Whitney." E. L. Frowe and A. P. Carahan argued the affirmative, and W. I. Joss and G. H. Dial the negative. Each side brought forth defying assertions, but the Judges Bailey, Floyd, and Cheadle, decided unanimously in favor of the affirmative. With J. D. Riddell accompanying them at the piano, E. C. Abbott and W. J. Yeoman amused the Society with a vocal duet. They responded to a hearty encore. Following C. S. Evans's select reading, F. B. Dodds gave an interesting discussion about "Scenery." The members were well pleased to see Mr. Norris perform with his harp; Mr. Bailey was at the piano. After having a recess of nine minutes, P. A. Rogers presented the news of the week. The Society having transacted all business, three new violinists, Abbott, Riddell, and W. J. Yeoman, made their appearance. Critic's report, general criticisms, and adjournment.

W. E. H.

March 10th.

The Ionian Society was called to order by Recording Secretary Horn, who appointed Miss Mudge president pro tem. The Society was opened by singing, Miss Correll at the piano, followed by devotion and roll-call. Miss Bessie Tunnell was elected and initiated. Miss Wilson opened the programme with an excellent instrumental solo. Dora Maas read an interesting essay on "Virtue." The Oracle, presented by Emma Finley, with the motto, "Necessity Mothers Invention," had a number of good things. A string quartet composed of Misses Walters, Mudge, Lyman, and Knickerbocker, favored the Society with a selection, and responded to an encore with the somewhat familiar "Ta-ra-ra." Carrie Staver recited "The Round of Life." Rena Helder sang the solo, "It was a Dream," with her usual sweetness, Elsie Crump at the piano. A discussion, "Should letter postage be reduced to one cent?" was argued on the affirmative by Ida Pape, who said that although one cent was not much, still to a business man it amounts to many dollars saved on letters, that he can afford to write oftener. Elsie Crump, on the negative said that there is a tendency to want all we can get for nothing, and that as the postage has already been reduced from 48 cents to 2 cents, it is within the reach of every one. The government could not afford it, as the postage now falls behind 20 per cent in paying for the postal service. The Society decided in favor of the negative. The programme was closed by a pleasing violin solo by Elsie Crump, Rena Helder at piano. The usual reports, business, and adjournment.

F. D.

GENERAL DUTIES AND PRIVILEGES.

General good conduct, such as becomes men and women anywhere, is expected of all. Every student is encouraged in the formation of sound character, by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. No other rules of personal conduct are announced.

Classes are in session every week-day except Saturdays, and no student may be absent without excuse. Students enrolled in any term cannot honorably leave the College before the close of the term, unless excused beforehand by the Faculty. A full and permanent record of attendance, scholarship, and deportment shows to each student his standing in the College.

Chapel exercises occupy fifteen minutes before the meeting of classes each morning, and unnecessary absence from them is noted in the grades.

Every Friday, at 1:30 P. M., the whole body of students gather for a lecture from some member of the Faculty, or for the rhetorical exercises of the third- and fourth-year classes. Once a week all the classes meet, in their class-rooms, for exercise in elocution and correct expression.

There are four prosperous literary societies, two of them of many years' standing. All meet weekly, in rooms set apart for their use. The *Alpha Beta*, open to both sexes, and the *Ionian*, for ladies, meet Friday afternoon. The *Webster* and the *Hamilton* admit to membership gentlemen only, and meet on Saturday evening.

The Scientific Club, composed of members of the Faculty and students, meets in the Chemical Laboratory on the last Friday evening of each month.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

The College of Veterinary Science of Kansas City will hold its annual commencement on March 17th.

Lafayette County is going to have a County High School. The institution will be located at Altamont.

The free text-book bill failed to become a law because of a disagreement on some of its provisions between the Senate and the House.

Ex-superintendent of Public Instruction, Geo. W. Winans, of Kansas, has been elected President of the newly organized Normal School of Oklahoma.

A telegram from Tucson, Arizona, announces the death from consumption of Prof. F. W. Phelps, formerly of Washburn College at Topeka.

One of the things which will stand to the credit of the late Legislature in Kansas is the liberality which it displayed in making appropriations for the public institutions.

The World's Fair Board has organized with M. W. Cobun as President and T. J. Anderson as Treasurer. The woman member, Mrs. Clark, will be the Secretary.

Gertrude Willett has presented the Hutchinson High School Museum with a cannon ball which was fired into a log cabin in Lecompton in the early Kansas troubles.

In the future the Chanute School Board will require its candidates for positions as teachers to write essays on some educational topic to be suggested by the Examining Board.

In accordance with a new law enlarging the membership of the State Board of Education, Governor Lewelling has appointed A. S. Olin and Wm. Stryker as additional members.

The Kansas Methodists, at their recent Conference at Baldwin, resolved that intercollegiate sports are detrimental to schools. The Agricultural College has always thought so, and conducted itself accordingly.

The Normal School had a big time last week over the news from Topeka that the Legislature had passed a bill making appropriation of \$50,000 for a new wing to their building. Among the many improvised songs rendered at the jubilee was the following, after the air of the patriotic Yankee Doodle.—

The Normal bird is on its flight,
And this is what it sings, sir:
It fills my soul with great delight
To have an other wing, sir.

The Legislature passed the law,
And we do now rejoice, sir;
Each Normalite should shout, Hurrah!
As long as he has voice, sir.

Our Regents all worked hard and true,
And fought for us most brave, sir;
Hurrah, it now is carried through,
We have a Normal Wing, sir.

LABOR AND EARNINGS.

Every encouragement is given to habits of daily manual labor during the College course. Only one hour of daily practice in the industrial departments is required; but students are encouraged to make use of other opportunities for adding to their abilities and means.

All labor at the College is under the direction of the Superintendents of the departments, and offers opportunity for increasing skill and efficiency. In regular weekly statements, the students are required to observe business forms and principles, showing from their daily account when and where the work was performed.

The shops and offices are opened afternoons and Saturdays for the accommodation of skilled students in work for their own advantage. Everywhere the student who works wins respect; and it is a matter of pride to earn one's way as far as possible.

The labor of the students in the industrial departments is principally a part of their education, and is not paid for unless the student is employed—outside of required hours of labor—upon work for the profit of the College. Students are so employed upon the farm, in the gardens or the shops, and about the buildings. The labor is paid for at rates varying with services rendered, from eight to ten cents an hour. The Superintendents strive to adjust their work to the necessities of students, and give them the preference in all tasks suitable for their employment. So far as practicable, the work of the shops and offices is turned to account for their benefit; and the increasing extent of the grounds and sample gardens brings more of such labor. The monthly pay-roll for the past year ranges from \$250 to \$400.

Many students obtain work in the city or upon neighboring farms, and so pay part of their expenses. In these ways a few students are able to earn their way through College. The amount so earned will vary according to the tact and zeal of the student. The majority must expect to provide by earnings outside of term time, or from other sources, for the larger part of their expenses. The long summer vacation of three months offers opportunity for farm or other remunerative labor; and no one need despair of gaining an education if he has the ability to use his chances well.

MAKE THE COUNTRY HOME ATTRACTIVE.

I happened, a few days ago, to come across a copy of your book on "Barn Building;" and upon almost the first page I read the following:—

"Nothing is more disgusting to the farmer's family, if they have any refinement about them, than a muddy, filthy barn-yard; and the farmer's son who has been compelled throughout all his boyhood to wade through one of these disgraceful, stinking, wasteful cesspools, is justified in his desire to leave the farm forever upon the first opportunity. Make the farm and all its belongings attractive, if from no other motive than that of inspiring a love and respect for the farmer's calling in the minds of the boys who are born and brought up on the farm. And nothing will go further toward accomplishing this object than so constructing the barns and yards that they and their surroundings may be easily and economically kept clean and comfortable. It should never be forgotten that wet, muddy barn-yards and damp floors go far toward neutralizing all the advantages obtained by what would otherwise be comfortable and profitable shelter."

To this I responded with a hearty "amen." I read it over and over again, and I kept saying to myself as I thought it over, "Here is where most farmers make a serious mistake. We are obliged to work so hard and practice such rigid economy in order to make ends meet, that we lose sight of everything but the essentially and indispensably practical and useful, and become oblivious to the hundreds of little trifles that go to make the home attractive and lovable, and which add so much to the sum of human happiness, although they may not add a peck of corn or a forkful of hay to the season's product."

Yes, this is one reason why the boys when they grow up want to leave the farm. They go to town occasionally on business, and there they see handsome lawns, beautiful shrubbery, lovely flowers, and attractive shade trees in front of the houses, and it looks like a paradise to them. The contrast between this and the muddy, filthy barn-yards, the ragged, bare, and desolate door-yards, and the tumble-down, uncouth, and littered-up condition of things generally, to which they have been accustomed on the farm, is too much for poor weak human nature; they go home disgusted with farm life and charmed by the beauties of the city.

A love of, a yearning for, the beautiful in Nature is, happily, inherent in the human family and will not always be stifled. And why should it ever be stifled or even repressed on the farm? There is no place on this wide earth where love of the beautiful and attractive in Nature may be indulged in so lavishly and at so little expense as on the farm. A clean, well-kept grass plot in front of the house, with one of our beautiful forest shade trees here, an ornamental shrub there, and here, there, and everywhere about the house and door-yard lovely flowers that, from early spring time until autumn's frosts, lift up their happy faces in a daily benediction to the overworked farmer's boys and girls, are luxuries that cost nothing, and may be had almost for the asking, on every farm.

Life is too short to be spent in one continual, drudging struggle for mere existence—in pandering to the merely animal wants of our natures! No wonder that the boys, and the girls, too, who have been compelled to exist (they don't live) in one of these tumble-down, ragged, and desolate looking so-called homes should become disgusted with farm life and forsake it upon the first opportunity! Who can blame them? It is largely our own fault. True there is work enough, and hard work, too, on the farm, but the poorest among us can find time to plant a few trees about our door-yards to refresh us with their greatful shade in the hot summer time; and every farmer's wife can find leisure to plant a few seeds in the spring, and will find health, strength, and joy in caring for them through the summer if the boys will but tidy up the fences and fix them so that the pigs and chickens will not make her labor in vain.

Let us see what can be done this spring. It is surprising what a very little time it takes to give everything about the farm, the barn, and the door-yard an air of thrift and comfort, where any attention at all is paid to appearances; and it is surprising how much a very little adornment of the door-yard will add to the attractiveness of a farmer's home. Let us go to work now, and in the language quoted from your book, "make the farm

and all of its belongings attractive, if from no other motive than that of inspiring a love of and respect for the farmer's calling in the minds of the boys [and girls, too] who are born and brought up on the farm." I said "amen" to this sentiment when I first read it, and again I say "Amen."

I hope the boys will lead off on many a farm this spring by planting out some of our beautiful forest trees for shade and ornament. Don't imagine that fruit trees will answer for this purpose; they are all right in their place, but their place is not in the door-yard; and then I hope the women folks will second the motion with ornamental plants and flowers in their proper places. If they will look over the advertising pages of the *Gazette* for the last three or four weeks they will find the advertisements of many florists, and if they will send to some of them for catalogues they will be surprised at the amount of information that can be obtained from them, and at the wonderful changes which a few years have marked in the floral kingdom. Let us all "brace up" and see how much of beauty just a little thought and labor can add to our country homes this year.—*Sigma, in Breeders' Gazette*.

MANHATTAN ADVERTISEMENTS.

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FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

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D. EWEY, the photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue.

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All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.
The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.
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Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.
General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.
The Experiment Station should be addressed through the Secretary.

WRITING AN ESSAY.

BY ALICE RUPP.

IN the selection of themes, which is so often a difficult task, not only for the beginner, the habit should be early formed of thinking over the different classes of subjects, one by one, in order, so that an opportunity may be given for one to suggest itself; in this way the mind will be enabled to fasten on something with which it is familiar, and which it may handle with interest and satisfaction to itself.

A child rushes home from school in wildest excitement, tosses hat here and books there, greets mother with the exclamation, "O mamma, I have a composition to write for tomorrow. I have been working on it all the afternoon, and I just can't do it. Won't you please help me?" "What is your subject, son?" "First, I tried 'Alexander the Great,' then the 'Philosophy of a Rain Drop,' and I can't write a word on either."

The mother, recognizing a tired brain and exhausted nerves in the eager, questioning face, sends the boy out to fly his kite in the green fields. In the enjoyment of play and the fresh air, the "dreadful" composition is entirely forgotten. On his return, his mother hands him pencil and paper, telling him to sit at the open window and write for her all he sees. It is evening when all nature is wrapped in sweet repose, and before the child is aware that he has been at work he has a commendable composition written on "What I Saw from My Window," simply because the subject was one within his comprehension, and the inventive power had the opportunity given it for exercising itself.

Granted a familiar subject has been selected and thought over,—for of course if the subject be a familiar one you must have some ideas on it,—and you could be induced to jot down the thoughts as they come, in a little while the material would be collected out of which the structure is to be built. Make a beginning, and the end will soon be reached. But you don't set about it, the first ideas are allowed to slip from your grasp. Three weeks! The time is so far ahead it seems useless to begin just yet; I'll wait till tomorrow and so—"tomorrow and to morrow and tomorrow, creeps in his peddy pace from day to day, till the last syllable of recorded time."

A letter is received from an old classmate who has been absent a number of years in India. As you read, what a current of ideas is suggested! Did you sit down at that very moment and answer, what a bright, breezy, chatty missive would soon be speeding its way to the far away friend. But you let the good impulse be crowded out by some minor matters, and you wait till the end of six months to answer. In vain do you try to recall all the bright speeches which have long ago sunk into oblivion. What once might have been a pleasure is now a duty, and as a result your letter is one of the stiff "I-take-my-pen-in-hand" sort, and the friend in that far-away country, as he reads says to himself, "How dull and stupid Charles has grown since our school-days; then he was the light of the class." But you are not stupid. It is because you fail to grasp and clamp the ideas that present themselves so rapidly when the letter was read, or a subject suggested.

Let me emphasize the importance of keeping a blank book handy, and when thoughts are presented to your mind, note them down for future use. Add to them from day to day; then, when you are ready to write, you have but to open your storehouse, and there, in a chaotic state, waiting for the nimble fingers of the artist are the materials (ideas)

ready to don the pretty dresses you provide; and like the little boy, you have written the essay before you are fully aware that you have taken the initiative.

SCIENCE IN THE COMMON SCHOOLS. I.

BY PROF. J. T. WILLARD.

IN this last decade of the nineteenth century it is becoming more and more apparent that the methods of thought, as well as the results of modern science, are being thoroughly incorporated into the every-day life of the people. An example recently at hand is seen in a pamphlet on "Clover Culture," in which are embodied the most recent results of chemistry and bacteriology in respect to the acquisition of free atmospheric nitrogen by leguminous plants.

Nutritive ratio, digestibility, nitrification, microbes, infection, relative humidity, low or high barometer, evolution, environment, energy, and many other words or phrases belonging to the language of science are common nowadays. Conclusions of science which thirty years ago were hooted at and opposed as nonsense, or worse, are now taken as every-day matters-of-fact. This hold of science on daily life will not be of a temporary nature, but will increase in strength and usefulness as the great store of Nature's secrets becomes more thoroughly revealed.

In view of this it becomes pertinent to ask what measures are in force tending to fit the mass of mankind for the greatest possible utilization of scientific knowledge or to impart the benefits of scientific training. The higher institutions of learning are doing their part, to be sure, at least in so far as their attending students are concerned. The value of properly presented scientific study in mental development, replacing to a considerable degree the study of language in that respect, is becoming recognized to a greater extent year by year. This reaches the masses only indirectly, however. In a country where the government is based on universal suffrage, the stability of that government depends on the conscience, intelligence, and education of the whole people. No matter how pure the intention, or how capable the natural intellect may be, unless these are supported and directed by proper education the citizen can not perform his political duties as he should.

The most important study, both in politics and in every-day life, is logic; that is, the science of reasoning. To draw correct conclusions from a number of observed or admitted facts is the most important function of the human mind. It is a function we must exercise every hour in all walks of life. Our success or failure in business largely depends on this. The success of the demagogue and the charlatan lies in their ability to make "the worse logic appear the better reason" to their untrained auditors. Some minds naturally move more logically than others, but all can be much improved by proper training. One of the great benefits of a mathematical training lies in its power to develop the reasoning faculty. In the study of the sciences we have a similar drill accompanied by the acquisition of a mass of useful facts. In the word "useful" we must not understand simply that which aids us in acquiring food and clothing. Any knowledge is useful which increases our capacity for enjoyment, which enables us to see more in the world about us, and so get more out of life. Scientific knowledge is useful in every sense. It not only assists us in the struggle for existence, but it ministers to the higher nature.

(Continued next week.)

THE MEANS OF ENJOYING LIFE.

BY F. HULSE, '93.

HOW to enjoy life is a question that many would like to have solved. But few realize that the solution depends almost entirely upon themselves. Nearly all of the conditions are under their control. Of course, they must be sane, or rational beings, in order to judge what is best for them at all times. Otherwise they would not know what enjoyment is.

One of the first requisites of a happy life is the ability to withdraw the mind from the sensations of various parts of the body, and thus be free to turn attention to other things. This requires order in all things, i. e., good health. By good health is meant that state of mind and body which is free from disease, or is in complete accord with the laws of God in nature.

Under such laws may be included consideration of proper time and regulation of study, the use of medicines, the laws of temperance, sufficient sleep, good habits, treatment of the various sense organs, proper care for amusements, desirable position on earth; growth of body and how to preserve it, the control of the nerves, and the effects of the violation of any such laws. Time and space forbid the treatment of these in detail.

Related to these, we have the laws of health for the mind. An important point to notice here is that whatever promotes the physical health generally promotes the health of the mind directly or indirectly; as sleep, intemperance, study, exercise or relaxation, amusements, and stimulants. If a person has a very good mind, he must see to it that he has a vigorous, thrifty body to support and keep the mind properly. Otherwise the good mind will avail him but little, and he will probably die young. It is evident that it requires an education to know of all these laws, and a strong will to so control ourselves that he may obey these laws at all times. But an education must be of the character to promote the development of both mind and body, and not in any way to retard the growth of either.

But what is more important than all, without which all the requisites before mentioned would be naught, is a good character. To obtain this one must obey all the laws of God. He must do the best he knows how under all circumstances, and see that this "know how" is all that he can obtain.

Leaving these few suggestions with you, hoping they may do good, I give in conclusion the following quotation, that you may meditate upon it. "1st. Take pleasure in nothing which is not commendable; and do everything which you take pleasure in. Think nothing but what is true; and do not utter all you think. 2nd. Subdue your passions; reign over yourselves; and you will consider the government of the world only a recreation. 3rd. Listen to a truth ye can never hear too often, and which sophists pretend to doubt: 'There is no happiness without virtue, and no virtue without fear of God.' "

SCIENTIFIC CLUB.

March 10th.

The Club was called to order by the President. The principal paper was presented by Mr. F. A. Marlatt, on "The Cow-horn fly," (*Hæmatobia serrata R. D.*). An extract follows:—

"Many insect pests have found their way to this country in the last one hundred years. Odd as it may seem, a cattle pest that is common all over Southern Europe first reached this continent in 1887.

"The cow-horn fly was first observed and reported by Mr. I. W. Nicholson, of Camden, N. J., about the middle of August, 1887. Without doubt it had been introduced with some imported cattle a month or so earlier. It disappeared that

fall after the severe frosts in October. Early in May the next spring it again made its appearance and multiplied and spread very rapidly. During the years 1888, 1889, and 1890 it rapidly spread west and south, and not so rapidly north. By the fall of 1891 it had reached the Mississippi River, but it was not reported west of it. It then occupied to a greater or less extent all the country east of the Mississippi River from Canada on the north to Florida on the south. The pest was first observed at this College on the 19th of September, 1892, and judging from its numbers, must have made its appearance some days earlier. In October it was reported to be very abundant and troublesome in the southern part of the State and in the Indian Territory. During the rest of September and the month of October and part of November the flies were observed on every bunch of cattle examined in this locality. They did not entirely disappear here till after the 12th of November, at which date only a few were found burrowed under the hair on the back of a milk cow.

"This fly can be easily distinguished from our common cattle fly from its smaller size, being only half as large, and from its black color, and also from its quick, concerted movements. They are easily frightened, and all rise seemingly at the same moment and alight on the animal again just as quickly. These flies frequent the side of the neck, the back, the belly and flank, and the base of the tail. When not feeding they sometimes congregate in large numbers around the base of the horns of the animal, where they can rest undisturbed. It is from this fact that the fly is called the cow-horn fly. The fly does not injure the horn in any way except to cover it with "fly specks." These blood-thirsty flies multiply very rapidly and become so numerous in certain localities that the cattle are prevented from feeding, and so the flow of milk is decreased and fattening is stopped.

"A knowledge of the life history of this insect is very important in order to cope with it. The flies emerging early in May at once begin feeding by sucking blood from the nearest cow. The female, after meeting with the male, deposits her eggs on the fresh dung just as it is dropped, and immediately returns to the cow.

"From observation it has been found that the eggs are deposited between 9 o'clock A. M. and 4 o'clock P. M. These eggs hatch within twenty-four hours, and the maggot feeds on the dung along with the larvæ of many other flies. When full grown, it leaves the dung and burrows an inch or so into the earth, and there pupates, and soon emerges as a perfect fly, only to do its part in producing another brood tormenting the cattle by its painful bite. The time occupied from the deposition of the egg to the emergence of the perfect fly varies from ten to fifteen days, so that we can calculate on two broods per month, or twelve broods in a year. As a matter of fact, the broods overlap each other, so that after the first brood, we may find eggs and larvæ, in all stages, and pupæ at the same time. From this, one will readily see the importance of destroying the first brood. If we can destroy the first brood, or most of it, we shall not be bothered with the second brood or those following.

"The destruction of the parent flies has been found to be impracticable. The use of kerosene emulsion has been recommended, but must be repeated at least once a week. The use of some oil like train oil, and also a trace of carbolic acid, tends to repel the flies. The most satisfactory method yet tried is to destroy the earlier stages while yet in the dung. This is best accomplished by the application of lime. A small shovelful on the top of each dung will do the work. This should be repeated every week during the month of May, after which, if the work has been thoroughly done, there will be no more flies to lay eggs. Spreading the manure once a week is also recommended, but it is not so effective."

Miss Reed, under voluntary reports, gave the experiments of Prof. Schneider, of Minnesota University, on the transpirations of anæsthetized plants, which were reviewed and explained. His interesting conclusions, that plants under the influence of ether or amyl nitrate, gradually cease transpiration and protoplasmic movements, and that different colored lights affect the rate of transpiration, were also given.

Prof. Hitchcock followed with an explanation of experiments showing the difference in transpiration of upper and lower surfaces of the leaves. Adjourned.

MARIE SENN, Secretary.

FARM NOTES FROM VARIOUS SOURCES.

Book farming is only the results of experience recorded for the guidance of others. A wise man will be glad to avail himself of such aid.

All men get tired of their calling, because over-worked. But give them other experience and they generally return to the one they are familiar with.

To learn any trade thoroughly requires study as well as practice—head-work as well as hand-work. Our boys should be taught that farming is no exception to this rule.

By raising your own feed stuffs, you save original transportation on the market, cost of hauling home, the profit of the middleman, and the risk of introducing foul seeds.

Our agricultural colleges could be well filled if the legislature would authorize each county in the various states to enclose a certain number of scholarships. Most of the counties would do it, and poor but worthy boys would be glad to take advantage of them.—*Mirror and Farmer*.

More waste occurs in farming than in any other pursuit. While the merchant will estimate his profits as close as the one-eighth of a cent on the dollar invested, and practice economy in all departments, the farmer allows waste to occur in the fields and in the barns. One of the first duties is to avoid loss, and the feed trough is the point where the largest waste is made.—*Mirror and Farmer*.

Few farmers, comparatively, have ever set out squarely to solve the problem of mechanical assistance on their farms. Once in a great while we find a farmer who has a mechanical turn of mind, and who uses every advantage possible that is presented to him. Some day we hope the study of farm mechanics will be deemed worthy of a larger place in the estimation of the American farmer.—*Farmers' Home Weekly*.

Farmers, as a rule, have not educated themselves for the farm, have not studied the books and agriculture and stock journals, and hence have not adopted the new and improved farm methods by which their profits might be doubled; nor have they been enterprising in seeking the best methods of making their crops. In other words, they have not kept abreast with the times, but are mostly walking in beaten tracks of the ages gone by, while all else have been rushing past them and outstripping them in the race of life.—*Farmers' Home Weekly*.

Agriculture is a subject that receives much attention from press and platform. Its true condition appears to be somewhat difficult to determine. Various conclusions are reached. It is alleged by some that poor work is frequently the cause of inadequate returns. There is much comment as to the quality of farm work. Some fault is found. Some good advice is given. In no branch of industry is good work and persevering toil so essential as in farming. All farm work should be well done. Without timely effort and judicious management, satisfactory results cannot be attained, nor continuous prosperity realized. It requires more skill, better work, and more persistency than formerly to produce a full crop of any kind from our weedy, worn-out, insect-laden soils. And then the different stages of farm work are so related or connected that inefficient work in the first stage may interfere with good work in the succeeding stages. Thus if the plowing is poorly done, after cultivation will not be so easy nor so effective, nor will the crop-yield be as satisfactory. The work must be well done at all times, all along the line.—*Mirror and Farmer*.

COLLEGE ORGANIZATIONS.

March 17.

The Ionian Society, with Miss Mudge president pro tem, was opened with singing, Olive Wilson at the piano. Led in devotion by Miss Mudge. Roll-call showed a large attendance. Myrtle Hood was elected and initiated. Stella Hougham opened the programme with an instructive essay on "Ants." The Oracle, edited by Bessie Denton, and read by Edith Lantz, was unusually good. Among some of the best contributions were, "Burgett's First Love," "Slang," "Old Things," "Joys and Sorrows of the First Year," "A Girl's Experience on Being Asked to go to the Hamiltons' Annual." Minnie Finley gave a pleasing reading from "Backlog Studies." Minnie Pincomb rendered an instrumental solo—Annie Laurie (variations). Report of committees; new business; unfinished business; ten or twelve trials, some of them furnishing the Society much amusement; Critic's report; reading and adoption of minutes; adjournment. F. D.

CALENDAR.

1892-93.
Fall Term—September 15th to December 23rd.
Winter Term—January 9th to March 31st.
Spring Term—April 3rd to June 14th.
June 14th, Commencement.
1893-94.
Fall Term—September 14th to December 22nd.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan., at once.

LOCAL MATTERS.

Mrs. Winchip spent Friday and Saturday in Topeka.

Rev. E. W. Jeffries, of Mt. Vernon, Iowa, visited the College on Tuesday.

Prof. White lectures today before the teachers of Hope, Dickinson County.

Seventy volumes have been received at the library from the State Bindery.

Chapel exercises on Monday were led by Rev. L. G. Thompson, of Canon City, Colo.

The furniture in the reception room is newly upholstered—a much-needed improvement.

Mrs. Quintard, of Silver Lake, visited her two daughters, in the Second-year classes, last week.

The class in Veterinary Science had an opportunity to witness and assist in "firing" a case of spavin on Friday.

Prof. Olin lectured last evening before the Epworth League of Marysville on the subject, "Power in Reserve."

Contrary to the established custom, there will be no joint session of the Webster and Hamilton Societies between terms this year.

Hon. J. S. Collins, of Salina, Columbian Exposition Commissioner, visited the College Tuesday in the interest of our proposed exhibit.

A meeting of resident Alumni is called for this evening in the Reception Room to plan for the triennial reunion and banquet on Commencement Day.

More farmers' children are educated at the Kansas Agricultural College than any other educational institution in the country.—*Council Grove Republican*.

The appointment of Ed Secrest as one of the regents of the Agricultural College was the right and proper thing to do. He is the right man for the place.—*Riley Regent*.

Rev. L. G. Thompson, pastor of the Christian Church, Canon City, Colo., spent a few days this week with his brother, Supt. Thompson, on his return from Girard, Illinois, where he attended the funeral of his mother.

Senator Senn, of Dickinson County, was a visitor Monday, and addressed the students in Chapel upon the importance of their work here, and the good effect of it, if rightly pursued, upon all with whom they come in contact in their life work.

The approach of the Commencement season is evident to all who go into the Sewing Department and see there the large number of new dresses on the way. It would also be well worth one's while to see the World's Fair work the girls have prepared.

Kansas, Prof. Failyer, of the State Agricultural College, has determined, is outside of the belt for the growing of beets of desirable quality for making sugar. This is an important discovery. It is just about as important to know what not to grow as what to grow.—*Osborne Farmer*.

Chapel exercises yesterday afternoon consisted of original work from members of the second division of the Third-year Class, as follows: "Animal Intellect," Alverta M. Cress; "Theosophy," J. M. Williams; "A Visit to a Coal Mine," Fannie Cress; "A Question of the Day," J. W. Evans; "The Influence of Music," Elsie Crump; "Maeandrina Labyrinth," E. L. Frowe; "The Oath of the Tennis Court," W. Harling.

The following additions have been made to the museum: A western herring gull, donated by Mr. F. Baxter; a little ring-neck duck, donated by Mr. Norris; and a saw-whet owl by Mr. Guffie. All these and the following skins have been nicely

mounted by Mr. Norris: Three California quails, a Lewis woodpecker, red-headed woodpecker, hairy woodpecker, red-shafted flicker, blue gross-beak, tree sparrow, Mexican cross-bill, and blue bird.

Editor W. C. Moore, '88, of the Junction City *Union*, has the following kindly words for his *alma mater*: "Every farmer in Kansas has just cause for rejoicing over the much-needed liberal appropriation given the State Agricultural College. In all, it gets \$78,000 for new buildings. There will be a \$60,000 library building and a \$14,000 central steam heating plant. Every farmer in Kansas should stand by the Agricultural College. The indifference which has been manifested arises from the fact that nine out of every ten of the farmers of the State know nothing of the College or its work. This College is not out-ranked by any similar institution in the world. Our farmers should be proud of it."

In the *Practical Farmer* of Philadelphia, Mr. Geo. T. Pellet, of Nemaha County, Kansas, pays the following tribute to the success of our College Farmer's Institute work: "While Kansas is some distance behind many of her sister States in the matter of Farm Institutes, yet the farmers, assisted by the Faculty of the State Agricultural College at Manhattan,—which by the way, is one of the largest and best institutions of its class in the country,—have taken the work in hand and are holding each winter a series of institutes in various sections of the State. Kansas being one of the foremost agricultural States, and withal noted for her characteristic enterprise and go-aheaditiveness, ought to be in the front rank in institute work. Our law-makers should provide for a liberal annual appropriation to assist in carrying out a thorough system of institute work after the most approved methods."

Prof. Georgeson is again at his desk, up to his ears in business which has, notwithstanding the faithful work of his assistants, accumulated during his two months' absence in Denmark, studying the dairy industry of that country. The Professor's trip was without accident and void of incident except for missing the return steamer, the "Majestic" of the White Star line, at Liverpool, necessitating a run of 165 miles by rail on an Irish "flyer" to Queenstown where he found the steamer lying to for the mail. He spent five weeks in Denmark, and was everywhere courteously received, even though the Danes are averse to revealing their dairy secrets to Americans, and for this reason have abandoned their working exhibit at the World's Fair, at one time planned. The immensity of the dairy industry of Denmark can scarcely be comprehended by one who has not personal knowledge of it, and Prof. Georgeson's report, soon to be issued, will be invaluable to American dairymen. A preliminary report from the Professor's pen has already been issued by the Department of Agriculture at Washington.

In noting the receipt of Bulletin No. 37, Editor Moore of the Junction City *Union* makes the following remarks: "This is a valuable pamphlet, and should be in every farm house in the county. Write to the Secretary of the Experiment Station, Manhattan, Kansas, and ask to be placed on the list for bulletins. While these are for gratuitous distribution, there is no reason why you should not profit by the expenditure made by the Government. Whether you do or do not, it is the same price. Stop in the office, and we will send in your name. What would please the *Union* more than any other thing would be to know that the farmers of Geary County are more intelligent, better informed on all matters pertaining to their business, and more progressive than those of any other county in the State. We hope to see the day when among the ranks of the men who call themselves farmers there will be fewer who are there because of a lack of education and a want of ability to make a livelihood elsewhere, and many more who take rank among the brightest and most cultured men in the county. More than in any other vocation, except in the pulpit, in the college, in law, and in medicine, the farmer should be an intelligent and an educated man. In the natural sciences, in horticulture, agricultural chemistry, veterinary science, in business, in markets, and in politics, the constant demands made upon the farmer make it quite necessary and convenient that he be well up as a specialist in a dozen different directions. We hope the farmers of Geary will begin to look forward and upward."

THE WEBSTER EXHIBITION.

The Eleventh Annual Exhibition of the Webster Society was given Saturday evening. Long before the time for opening the entertainment had arrived, the College Chapel was filled to its utmost capacity and many secured but standing room at the doors.

The programme opened with an overture, "Crown of Victory," by the orchestra, after which President Fairchild led in devotion.

The address, "The Evolution of a Modern Idea," by G. K. Thompson, showed careful and efficient work, and was well rendered. Mr. Thompson commanded the attention of his hearers in a masterly manner.

Following this was a comic song, "On the Kaw," rendered by a chorus of sixteen voices. In a hearty encore they favored the audience with an original ballad, sung to the tune of "Ta-ra-ra, boom-de-ay," and involving some of the incidents of college life.

"Has the Republican Party Outlived its Usefulness?" was ably affirmed by E. A. Donaven and as firmly denied by T. W. Morse. Both gentlemen proved themselves well up with the times, and treated the question with as much ease as an experienced campaign speaker. Mr. Donaven, with the spirit of a true Democrat, proved his argument conclusively, but like any other staunch Republican, Mr. Morse found work for the "grand old party" yet.

A vocal solo by G. W. Smith entitled, "Beyond the Sunset Gates," was beautifully executed and was highly appreciated by the audience; in response to whose hearty encore, Mr. Smith sang a humorous piece, "Two is Company, Three is None."

This was followed by a lively and interesting edition of the "Reporter," the Society paper, by John Stingley. Like most papers, it tended toward the vindicating of its own people and the arraignment of their opponents.

If one piece of music was more highly appreciated than the rest, it undoubtedly was the cornet "Three Star Polka," by C. B. Selby. In reply to an earnest "call back," Mr. Selby played a beautiful serenade which was also encored. In answer to it, the assembly was carried to grave thoughts in "Home, Sweet Home," and not a few could see that beloved cot of his childhood, and longed for its shelter once more.

"Our Self-made Boy" was the subject of an oration presented by M. W. McCrea. Though a boy in stature, the speaker showed himself a man in delivery. His oration was excellently written, and has been justly pronounced the best of the evening.

A Character song by a loyal ex-Webster, C. E. Freeman, '88, was highly commended by all. The song consisted in original short ballads characterizing the times, and sung to the tune "They're After Me."

The last oration, "Are We Too Practical?" by Albert Dickens, was well received by the audience, being a subject into which mankind is beginning to look with deep interest.

After a few well-chosen remarks from President Hulett in behalf of the Webster Society, a quartette closed the exercises of the evening.

The programme was good throughout, and, by many older students, was pronounced the best exhibition given by the Society for a number of years. Every one went away with a feeling of satisfaction.

GRADUATES AND STUDENTS.

P. C. Milner, '91, has a good position in the Rock Island offices at Horton.

Olive Wilson, Second-year, went down to Topeka yesterday to stay over Sunday.

Elizabeth Edwards, '92, came in from her school Saturday to attend the Webster Annual.

H. A. Darnell, '92, was among the interested visitors at the Exhibition Saturday night.

Laura Day, Fourth-year, was out of College part of this week on account of sickness.

Mr. E. H. Perry ['86] is prominently mentioned as a citizens' candidate for member of the School Board from the Fourth Ward. Mr. Perry

is a Republican, but is said to be fair and liberal, and if elected would doubtless make an excellent acquisition to the School Board.—*Topeka Press*.

C. S. Criswell, Second-year, drops out of classes to take up spring work on the home farm.

C. P. Hartley, '92, is gradually regaining his health, after an illness of about nine months.

Madeleine Milner, '91, writes that they are pleasantly located at 1405 west Sixth St., Topeka.

Mary Lyman attended the Commencement exercises of the Medical College, in Topeka, Tuesday.

H. W. Avery, '91, came in from Clay Center Saturday to attend the Webster exhibition in the evening.

Edith Allman, Second-year in 1890-1, graduated Friday from Musgrave's Business College, Manhattan.

Phoebe McCormick, of Zeandale, Second-year in 1890-1, came up to attend the Exhibition Saturday night.

Dora Thompson, Third-year last term, returned from Irving Friday, but will not re-enter College until next year.

Jessie Whitney, Third-year last year, finished her school in the northern part of the county last week, and called at the College Friday.

B. H. Pugh, '92, of Topeka, was a spectator at the Webster Annual Saturday evening. Mr. Pugh is now Superintendent of the Oakland M. E. Sunday school.

Miss Matie Toothaker, of Kansas City, who has been attending College at Manhattan, was compelled to leave, and is now at her home in the city seriously ill.—*Olathe Patron*.

John Hartley, '92, came down from Stockdale, where he is teaching, Saturday, for a short visit with home folks, and to attend the Webster Annual.

Bertha Spohr, First-year last year, closed a successful year of teaching at the home school Friday, and will re-enter College for the spring term.

M. V. Hester returns to enter Third-year classes after an absence of a year, which time he has spent in farming and teaching in Kiowa County.

Geo. E. Hopper, '85, will, with his family, call Arkansas City home for a year or two. Mr. Hopper is receiver for the Arkansas City Water-works Company.

The Topeka *Capital* of Sunday last publishes in full a lecture on physical culture by Prof. S. W. Williston, '72, before the Young Men's Christian Association of Topeka.

BREEDING GOOD DOGS.

Much is being said about high breeding, scientific breeding, the propriety of breeding out the scrub and thus improving all domesticated stock; and this has been going on more or less for more than a century, and resulted in the blooded horses, cattle, sheep, swine, poultry, fruit trees and shrubs, garden vegetables and flowers, and field seeds as we have them to-day; but in one respect little of anything has been done to advantage. We refer to the matter of improving the breeds of dogs, and of making scrub dogs odious by popularizing the breeding, the scientific breeding, of good dogs. From the days away back, the memory of which no man recalls, the mean, night-prowling, wolfish cur, unbred, untaught, and unfed, has been denounced as the meanest thief known to civilization. He was ever a mongrel, a mean, vile, vicious, ungovernable brute, of little or no use to his owner, and a source of annoyance and destruction to the neighbors and his property.

Can we not popularize the breeding of good dogs, and by so doing weed out and measurably annihilate the mongrel? A good dog is a thing of utility, something to be proud of; and of great value to his owner for both offense and defense. The reader will notice well-bred and trained dogs advertised by breeders sometimes in these columns, and we are advised that they always find a ready sale for them at good prices. We hope to see more of this done, and immediately.—*Colman's Rural World*.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

WORLD'S FAIR NOTES.

From a letter by Prof. L. C. Wooster, who has been appointed by the Committee on Kansas Educational Exhibit at the Columbian World's Fair to gather up the prepared material, we excerpt the following interesting notes:—

Exhibits from foreign countries are almost the only ones being placed at this writing—March 18—but 15,000 workmen are busily engaged in completing the buildings and preparing tables, cases, and pavilions for the exhibits. Soon there will be 50,000 men at work.

Those who visit the Exposition during May, June, and July will be wise to wear their winter flannels and overcoats, and cloaks, for there will be no heat permitted on the grounds to temper the cold lake winds except animal and sun heat.

Prices for labor and lumber are exceedingly high in Chicago. Pres. A. R. Taylor and the writer decided on their recent visit to Chicago that it would be much cheaper to have all tables, cases, and counters made in Kansas and shipped to the Exposition grounds, even at the expense of \$165 per car, than to order the work done there.

The Educational Exhibit receives but \$1000 from the New Commission, instead of the \$4000 requested and needed. It is a pity that now, after the schools of the State have done so nobly in raising funds and preparing exhibits, the work must be put up with the greatest economy or another call made for funds.

The Kansas building compares well with its neighbors in outside appearance, but the broad rafters and joists on the inside are not in the least attractive. Prof. Dyche is busily engaged in building mountains for his Rocky Mountain animals. Hundreds of people are his daily visitors. Could he have charged a ten-cent admission fee, he would have earned the price of the Kansas building.

COUNTRY BOYS.

Occasionally the country boy is appreciated, and not misjudged on account of his looks. Some city people may look upon the country boys as specimens of natural history, but these same boys can give them points and wisdom on things that pertain to the making of good, honest, true men. Dr. Kennedy says this of the country boy in the *Mirror and Farmer*: "We have spent much of the last thirty four years in farmers' homes, and have seen that boy—the country lad—as he is. He rises early; he is acquainted and interested in all the stock and poultry; he knows all the country round; he is acquainted with every bug and worm, bird and animal, tree and flower, weed and cereal, on the farm. He has a good appetite and good digestion, and his sleep is sweet and refreshing. He reads thoughtfully the great book of nature, whose leaves open before him day by day. He loves his father and mother, and calls them such, he loves his sweet-heart as no town boy does, and is loved in turn by her as no town boy is. He works hard all day, and when night comes, he enjoys a frolic with a healthful zest, and then lies down to peaceful dreams. He grows to man's estate with the rich heritage of good health; a clean, pure character; industrial habits; a mind well stored with practical knowledge gained by the fireside and in the country lyceum; affectionate and trusting in his disposition; polite and courteous, though perhaps somewhat awkward in his manners, and in every way well equipped for the battle of life. He knows nothing of the follies and vices, the mockery and hollowness, of city life. He is a grown-up man, and the chief places in business in the city and in the nation come into his possession. He has the stuff in him that qualifies him under guidance for eminent statesmanship, for military renown, for professional success, for judicial distinction, and for the grandest citizenship. The grandest men of our nation have been, and the grandest men of the future will be, found among the country boys of our land. He may at times think his country home plain and unattractive, his life one of drudgery and humdrum, and may at times envy the town boy and his more exciting life and opportunities, but let him not worry. He has a far richer heritage, and the future will be a satisfactory revelation to him. God bless the country boy! He is the hope of the nation."

LABOR AND EARNINGS.

Every encouragement is given to habits of daily manual labor during the College course. Only one hour of daily practice in the industrial departments is required; but students are encouraged to make use of other opportunities for adding to their abilities and means.

All labor at the College is under the direction of the Superintendents of the departments, and offers opportunity for increasing skill and efficiency. In regular weekly statements, the students are required to observe business forms and principles, showing from their daily account when and where the work was performed.

The shops and offices are opened afternoons and Saturdays for the accommodation of skilled students in work for their own advantage. Everywhere the student who works wins respect; and it is a matter of pride to earn one's way as far as possible.

The labor of the students in the industrial departments is principally a part of their education, and is not paid for unless the student is employed—outside of required hours of labor—upon work for the profit of the College. Students are so employed upon the farm, in the gardens or the shops, and about the buildings. The labor is paid for at rates varying with services rendered, from eight to ten cents an hour. The Superintendents strive to adjust their work to the necessities of students, and give them the preference in all tasks suitable for their employment. So far as practicable, the work of the shops and offices is turned to account for their benefit; and the increasing extent of the grounds and sample gardens brings more of such labor. The monthly pay-roll for the past year ranges from \$250 to \$400.

Many students obtain work in the city or upon neighboring farms, and so pay part of their expenses. In these ways a few students are able to earn their way through College. The amount so earned will vary according to the tact and zeal of the student. The majority must expect to provide by earnings outside of term-time, or from other sources, for the larger part of their expenses. The long summer vacation of three months offers opportunity for farm or other remunerative labor; and no one need despair of gaining an education if he has the ability to use his chances well.

MANHATTAN ADVERTISEMENTS.

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FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

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D. R. G. A. CRISE, Dentist, 321 Poyntz Ave. The preservation of the natural Teeth a Specialty.

PHOTOGRAPHS.

D. EWEY, the photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue.

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THE SPOT CASH STORE is Headquarters for Dry Goods, Novelties, Boots and Shoes, Hats and Caps, Clothing, and Ladies' Wraps. Lowest prices in the city.

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All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. T Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums. Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

SCIENCE IN THE COMMON SCHOOLS. II.

BY PROF. J. T. WILLARD.

IN view of the benefits to be derived from a study of a science, it should be apparent that these benefits should not be restricted to those who are able to attend the higher institutions of learning, but should as far as possible be conferred upon the people at large. The Farmers' Institutes held under the auspices of the Agricultural Colleges are means by which for many years these Colleges have attempted to diffuse scientific knowledge relating to agriculture. The Chautauqua courses of reading have in part the same object. More recently the movement known as the University Extension is endeavoring to give the people of cities some insight into the modern views of science, literature, and other branches of learning. It is only by such means as these that the adult population can be reached. While this is well, and should be encouraged in every way, the fact that the children and youth of today will be out of school in a very few years should warn us that, unless science teaching of the people is always to continue in this disadvantageous way, now is the time to educate the next generation of men and women.

The advantage of education in youth, while the mind is plastic and unoccupied by the cares incident to existence or the schemes of business, needs no argument.

Science, then, should be taught in the common schools, country as well as city. It should be imparted in the form of daily talks by the teacher upon the facts and phenomena of every-day observation. Children are always eager to learn something new, if it is not degraded into drudgery. The sun, moon, planets, and stars are always interesting. Their relative sizes, distances from us, differences in nature, etc., can be easily impressed upon a child. Eclipses may be explained. The boy who has had the cause of the changing of the moon well explained will not be likely to consult that luminary in regard to seed-time, harvest, or butchering. So it is with other sciences. Let the teacher take a text from any fact of general observation, and build about it a brief, simple talk in explanation which shall at the same time suggest the "infinite ocean of truth yet undiscovered." Natural philosophy, chemistry, botany, and zoology will furnish endless topics for such talks. If all teachers in the common schools would pursue such a course, the next generation would be very different from the present.

It must not be forgotten, however, that simply teaching a few of the facts of science is not teaching science. The latter involves a recognition of the relations existing between the facts, and a thorough understanding of the connection between the observed phenomena and the facts for which they are supposed to speak. If the argument by which the phenomena are connected with conclusions and general scientific laws is not kept well before the pupil, the training of the reasoning faculty is not accomplished at all, and scientific study degenerates into a more or less successful attempt to memorize facts. These facts are useful, and are in themselves well worth the effort indicated above, but the real teacher should not be content with this.

The ability to properly teach science cannot be had by reading up some six- or sixteen-weeks-course text-book. It can come only by actual contact with the things and forces described, under the guidance of a thoroughly informed and successful teacher. Unfortunately, comparatively few of our country teachers have had such training. The blind cannot lead the blind, and we must look to the County Institutes to supply in part

the necessary scientific training. People would soon appreciate the difference between such trained teachers and the merely ordinary kind, and pecuniary recognition of this would speedily follow. Let us hope that in the near future the minds of our youth will be so trained that whenever an alleged fact is presented they will automatically inquire, "Upon what evidence does this rest?" or "What is the cause of this?" and, if the answer is not forthcoming, that they will be impelled to search for it until the truth is ascertained.

NEW YORK CHILDREN IN KANSAS.

BY PROF. FRANCIS H. WHITE.

THE February number of *Charities Review* contained an article by the writer in which were some facts that may be of interest to Kansas people. The subject was "Placing Out New York Children in the West," and the part that had special reference to this State is essentially as follows:

"In order to show more definitely what becomes of the children placed in the West, two New York Children's Aid Society parties have been selected—the first, one of the most unsuccessful, and composed of boys between the ages of fourteen and seventeen years; the second, an average party, the ages for the most part under fourteen. Considerable inquiry in regard to the children has been made by the writer, and the facts collected have been added to the records as they appear on the Society's books. Still much desirable information is lacking, especially in regard to the party placed in 1867, the first taken to Kansas. Both the boys and the pioneer farmers with whom they were placed have moved frequently, and hence tracing the path of two such erratic bodies has proved quite difficult. In the lists, numbers have been substituted for names, and only the essential facts are stated.

PARTY PLACED IN KANSAS, 1867.

1. Reported a good boy, but no record after first year, though many letters have been sent.
2. Wrote once. No trace of him since.
3. Stayed nine months, then went West and has never been heard from.
4. Remained about two years, then ran away. Some years later served a term in the penitentiary. Afterwards wrote his foster parent he was employed and doing fairly well.
5. Left after staying a few months.
6. Stayed about a year and a half, then went to Michigan, where he married, and still lives.
7. Soon left.
8. Remained in place for several years, then went elsewhere in the neighborhood to work. Not been in the vicinity for many years.
9. No replies to letters sent.
10. Was a good boy, but died in second year.
11. Left the first year.
12. A good boy, but met with accident, and went East for treatment. Nothing known of him since.
13. Did well. Is now married; has children of his own, and is living near a large western city employed as railroad conductor.
14. Left the first year.
- 15, 16. Brothers. Placed with same man. No record or replies to seven letters sent.
17. Stayed six months, then went to live with another man in the vicinity. Now has considerable property, and is highly respected.
18. No record or replies to letters.

"The chairman of the committee that found homes for these boys is still living, and is a man of some prominence in the community. He remembers very well the disappointment of the farmers when they found the boys were over fourteen, for they had requested younger children, knowing well they could not induce the older ones to remain. The chairman seemed quite sure the farmers had no intention of doing a charitable act nor of satisfying their own longing for children, but they simply wished to obtain cheap labor, as the boys were only to receive board and clothes for their services. He says when he expressed doubt as to whether the boys ought to be placed with these men without any written agreement on the part of the latter to take good care of them, the agent laughed and told him not to worry about that; if the homes were

not agreeable to them they would soon leave. Not one of this party now resides in the county, and only one is known to live in Kansas. Over half of the persons with whom they were placed are dead or have moved out of the county, and their present address is unknown to former acquaintances.

PARTY PLACED IN KANSAS, 1884.

1. Age 6. Visited one year later and found he was doing well and had excellent home; frequent good reports; now working out and earning \$10 per month; goes by foster parents' name.

2. Age 17. Wrote same year thanking society for home. In 1891 joined regular army, was assigned to infantry band, and stationed in New Mexico. Has written and published some poems, and now employs leisure time studying Spanish and translating poetry. Reports he is saving money and has joined the church.

3. Age 6. Stayed until man with whom placed moved away; then went to live in town near by, and is now doing well.

4. Age 12. Stayed until man moved away, then went to live with excellent family; still there and doing well.

5. Age 9. Stayed until man broke up housekeeping, then went elsewhere, and when last heard from was doing well.

6. Age 12. Visited and found to be doing well; letters confirmed report; died in 1883 of consumption.

7. Age 10. Remained six years, then went to New Mexico; returned, and later reported doing well.

8. Age 14. No replies to letters sent.

9. Age 9. Visited and found to be doing well; remained seven years and then went to work for himself; now reported to be making a good living.

10. Age 10. Visited and reported as getting along all right, and that he had joined the church; stayed three years; is now in neighborhood and said to be succeeding.

11. Age 8. Visited and was reported a good boy; remained till 1889, then left and has worked in several places since.

12. Age 12. Remained for several years, was slow and stubborn, but a good worker; went to Colorado and then returned, and is now reported as in the neighborhood, but "doing no good."

13. Age 16. An excellent young woman; married a relative of the man with whom she was placed, and is doing well.

14. Age 6. Visited and found to have a good home, but after three years left it; reported that he lied and stole and could not be managed; brought back, but was dissatisfied, and was transferred to another home, where he did fairly well. Later, taken to New York and placed in the Eye and Ear Infirmary for treatment.

15. Age 5½. Visited and found to be doing well; failing health of his foster parent made it necessary to give him another home, where he is now living and getting along well; is well liked.

16. Age 6. Visited and found to be doing well; a letter from foster parent says boy goes by his name, a recent letter that "he is satisfied with them and they with him."

17. Age 7½. Stayed until foster parents gave up housekeeping, then went to another home, where she is reported to be contented, giving fair satisfaction, though she is not very intelligent.

18, 19, 20, 21. Ages 15, 13, 12, 11. Brothers and sisters; all doing well at last account; one of them now owns an eighty-acre farm.

"At my request an official of the Society has gone over their records carefully and furnished me with the following statistics:—

"The total number of children placed in homes among the residents of Kansas is 960, of which number 129, or about 13.43 per cent, were girls. Ninety-four, or 9.79 per cent, have no records. Nearly all of these are large boys, and placed early in the history of the Society; thirty-two, or 3.33 per cent, were returned not satisfactory; fifteen, or 1.56 per cent, are known to have died; ninety-five, or 9.89 per cent, left their homes within the first few years; twenty-three, or 2.39 per cent, have bad records; sixty-four, or 6.66 per cent, have poor records; 212, or 22.08 per cent, have very fair records; 425, or 44.27 per cent, have excellent records. The average age of the children was 12.3 years; eighty-four per cent of those under eight years have done well."

"Some of the conclusions one is sure to form after investigating this question are:—

"First, the children should be put into the new surroundings before their habits have become fixed.

"Second, the homes should be carefully selected. No amount of letter writing can compensate for carelessness in this particular.

"Third, the child's life should be watched, but care must be exercised that the foster parents' influence and authority are not thereby weakened.

"Fourth, the placing out of dependent children is by far the most economical, the most humane, and the most successful way of caring for them."

A Mississippi farmer educated his son at the Agricultural College of that State. After graduating, the son returned home and took charge of his father's farm and managed it for one-half the proceeds. Now the old man gets as much rent as he formerly made from the entire farm.—James K. Reeve, in *Our Grange Homes*.

FARM NOTES FROM VARIOUS SOURCES.

Interest your children in the study of botany.

The successful farmer or trucker is the man who has something to sell every time he goes to town.—*Texas Farm Journal*.

There is no proper niche in the world for the hermit farmer. If he would become a man he must go out into the world and battle for life with other classes.—*Our Grange Homes*

It is very certain that the success of a man's work depends on the amount of intelligence possessed by the man. It is not the land, but the man, every time, that is at fault when the crops are poor, and the man is to be credited when they are large and profitable.—*Farmers' Home Weekly*.

It takes brains to manage a farm rightly. A farmer should make a study of the adaptability of the soil he cultivates, always planting that which the soil will produce best without robbing it of all its strength and fertility. A little shrewd management is often better than a year's labor.—*Farmers' Home Weekly*.

Why not give the boy on the farm a better chance than he has been having by setting aside a little strip of land for his own use—to cultivate just as he pleases? And when the crop is harvested do not chill his hopes and ambitions by coolly pocketing the proceeds. We used to call all the colts and calves on the farm ours until they were sold—then we saw how uncertain in life were the things that seemed most sure.—*Field and Farm*.

The daily routine of life on a farm with no outside opportunities for culture and improvement gives a man a very narrow experience and a proportionately contracted view of life. The grange aims to obviate in a measure this serious difficulty, and to give the farmer and his family an occasional glimpse of the world and its wonderful surroundings, and to bring him in contact with humanity. In no other way can his narrow views be so easily driven out and he become the broad-minded man that God intended he should be.—*Our Grange Homes*.

Country schools are nearing the end of their terms. But as the work grows thicker on the farm the older boys have to quit the school and go to farming. It is a hardship on them always. A boy is not able to get the most out of school until he is sixteen or eighteen years old; and when after that time he is never allowed to finish a term, he can hardly ever get the schooling he wants. Farmers are strong believers in education, but they don't always take trouble enough to work out their belief for their own sons.—*Field and Farm*.

It is said that the shoemaker's children go barefoot. Some farmers are a good deal like the shoemaker. When a family lives on the farm and does without small fruits and fresh vegetables the man who manages the business is not doing the square thing by them. A great many farmers would be better off if they would grow more things to eat and fewer to sell. There is no advantage in trading wheat for groceries when better victuals can be raised at home. Green peas are cheaper than liver pills, and asparagus is easier to take than quinine.—*Field and Farm*.

The farmer should be as willing to pay for brain work as muscle.—Farming can rise no higher than the intelligence of the farmer.—Don't have so much respect for your ancestors as to copy all their errors.—The more a man learns the more he finds out what an ignoramus he is.—Farming, like every other business, doesn't pay when it is not properly conducted.—Intensive methods mean 300 bushel of potatoes per acre and 300 pounds of butter per cow.—No occupation calls into play so many mental faculties and so much skill of the hand as farming.—Most farmers might make themselves comfortable by saving and applying the manure that is annually wasted.—The country, with an occasional visit to the city, is the place in which to rear a family.—The profit is not in a large farm and small yield, but in a small farm and large yield.—Make farming what it should be, and the boys and girls will never need leave it to get a liberal education.—Where there is the most intelligence there is the most progress.—*Mirror and Farmer*.

COLLEGE ORGANIZATIONS.

Student Editors.—M. F. Hulett, Edith McDowell, C. H. Thompson.

Young Men's Christian Association.—President, J. E. Thackrey; Vice-President, J. B. Thoburn; Recording Secretary, G. L. Melton; Corresponding Secretary, M. F. Hulett; Treasurer, E. J. Hartzler. Meets every Sunday at 3 o'clock P. M. in Horticultural Hall.

Scientific Club.—President, J. T. Willard; Vice President, A. S. Hitchcock; Committee on Programs, J. T. Willard, ex-officio, E. R. Nichols, A. S. Hitchcock; Secretary, Marie B. Senn; Treasurer, F. A. Marlatt. Meets on second and fourth Friday evenings of each month, in the Chemical Laboratory. Admits to membership advanced students and College officers.

March 25th.

Friday afternoon found the Alpha Beta Hall filled with members and visitors. The Society was called to order at the usual time, and the programme was opened by a quartette by Messrs. Thompson, Lyon, Abell, and Longnecker; Onie Hulett music Committee. E. J. Hartzler led in devotion. An interesting essay was then read by J. J. Fryhofer. The question for debate, "Resolved, that a man is justified in disobeying the laws of his country which he believes morally wrong," was debated on the affirmative by A. H. Morgan and W. H. Phipps, and on the negative by Mary Painter and M. C. Havens. A few of the thoughts which the affirmative presented were, that most of the laws which were disobeyed were unjust laws. If laws had never been disobeyed we would now be under the same laws we were years ago. We honor people who disobey laws if it is believed to be for their own good or for their country's good. A wrong law should be made right, and if disobeying it will accomplish this, such action is justified. A few of the thoughts expressed by the speakers on the negative were, that law is and always has been necessary for government, and if people were justified in disobeying any law which they thought was wrong, we would soon not have a desirable government. What one person would believe to be morally wrong, another would believe to be right, and if disobeying the law he would be doing wrong to his neighbor. Education changes people's ideas of what is right or wrong. The people should gather together and change or abolish a law, instead of disobeying it. The Judges decided in favor of the affirmative. The Gleaner was read by E. J. Abell; motto, "A trained man will make his life tell; without training you are left on the sea of luck, where thousands go down while one meets with success." After recess there was music. H. R. Miller gave an informal speech on "The evils of our government," and Fannie Parkinson gave an interesting talk on "Fashions." Mr. M. A. Carleton then addressed the Society. The questions brought up were discussed with great interest. Other business as usual, and adjournment after congregational singing. J. S.

March 25th.

On account of both President and Vice-president being absent from the Hamilton Hall, Secretary Painter called the Society to order. He asked J. D. Riddell to take the chair. After roll-call, C. R. Hutchings offered prayer. C. A. Johnson opened the programme by delivering a good forcible declamation. G. C. Hall made his first appearance before the Society with an essay about the "American Indian." It was written and read in a manner that pleased every one in the room. A very interesting and instructive debate followed. The question was, "Resolved, that the Government should expend more money for the improvement of harbors than for the reclaiming of arid lands" T. E. Lyon and R. S. Kellogg presented the affirmative. Transportation being a means of exchange and a public necessity, the Government should improve the harbors and deepen the channels. Even today this work is very essential, but when the great Nicaragua Canal is completed this will be even more necessary than at the present day, for then the river steamboat and the barge, etc., will come back into use. It has been said that the improving of the harbor at Galveston would be the making of the State. This is essential in order to save the property and lives of the people who inhabit these dangerous regions. The deep harbors and channels would be of great importance in time of war. When we consider that one-eighth of the entire commerce of the United States passes through the Great Lakes and out of the St. Lawrence, does it not seem that Congress was justified in making the \$5,000,000 appropriation for the Sault Ste. Marie Canal, which will be completed this year? When the canal which is being built between Lake Huron and Lake Superior is completed, four times as many vessels can pass through these lakes. Take appropriations similar to these for harbors, canals, etc., and attempt to water the West; it would seem useless. It would take \$15,000 to bore a well, and then the water obtained would supply but 100 acres of land. It would be possible to supply but a very little land with water from what rivers there are on account of their size. F. R. Smith and E. A. Frowe presented the negative. One-fifth of the area of the United States is arid land, and a large proportion of it could be used if there were only a supply of water. It has been shown that these lands are of a suitable character to raise agricultural products. There are many ways of getting water to this arid land. In Western Kansas, there is a large supply of under-ground water which can be easily reached by boring artesian wells. In Meade County, there are 200 of these wells costing \$500 each, instead of \$15,000 as was stated by the affirmative. The large valley of the Snake River 60 miles wide and 300 miles long, and in fact, the most fertile valley in the United States, could easily be irrigated. The proper work was done to take the water from the river. There are many other places in which this irrigating could be done at a very little cost compared to the amount raised afterwards. If these wells and ditches did nothing more than to supply water for stock, this would be enough for the most parts afford pasture. The negative did not deny but that harbors were necessary, but thought that the first thing to do was to raise the different products in order to use these transporting vessels. The Society decided in favor of the negative. J. J. Johnson presented an able number of the, Recorder. O. R. Smith, G. W. Finley, and J. Poole gave good discussions. R. J. Barnet, was called upon to give a description of a "Snipe Hunt." The names of R. T. Buck, O. Bentz, H. R. Gilbert, H. T. Van Patten, and J. D. Trumbull were proposed for membership. After business, Critic's report, and some good music by Baily and Lesley, the Society adjourned. W. E. H.

CALENDAR.

1892-93.

Fall Term—September 15th to December 23rd.
 Winter Term—January 9th to March 31st.
 Spring Term—April 3rd to June 14th.
 June 14th, Commencement.
 1893-94.
 Fall Term—September 14th to December 22nd.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds *at par*. The law requires that no bonds be sold *at par* or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan., at once.

LOCAL MATTERS.

Secretary Graham visited Topeka on Saturday last.

Prof. Georgeson spent two days in a trip to Topeka this week.

Prof. Failyer enjoys a visit from his sister, Mrs. Cogswell, of Sedan.

Several former students return for the Spring Term, and a number of new ones enter.

Grace Saxton, of Edgar, Neb., visited College this week with Nora Neweli, Fourth-year.

Prof. Georgeson will make a trial of pure-butter ferment, from Denmark, in this country soon.

A flushing of the city hydrants on Tuesday evening reduced the pressure at the College to less than nothing for a short time.

Ivy Harner, Eusebia Mudge, and F. R. Smith were on Wednesday elected student editors of the INDUSTRIALIST for the spring term.

Mrs. Graham spent the week in Clay Center in attendance upon the annual convention of the Christian Church for the Fifth Congressional District.

Board meeting on Tuesday, April 4th, at 3:30 p. m. Four new members take their places at this meeting, and the annual election of officers occurs.

The examinations at the close of the Winter term were completed yesterday, and the Spring term begins on Monday, with classes already formed.

Fourteen of the Senior girls this week close a very profitable term's work in Floriculture in the new propagating pits, and the Professor in charge goes a-mourning.

The usual reduction in numbers enrolled for the Spring term appears from the necessities of farming at this time of the year. There are, however, nearly four hundred remaining at their studies.

The third division of the Fourth-year Class entertained the Chapel audience yesterday afternoon in orations as follows: "Individuality or Circumstances: Which?" M. F. Hulett; "The Lesson of Religious Beliefs," Margaretha Horn; "Power of Prejudice," A. F. Niemoller; "Creations of Desires," Maud Knickerbocker.

The recent bulletin by the Horticultural Department of the Experiment Station regarding second-crop potatoes is attracting more attention than any other bulletin that has been issued for a long time. The possibilities which this knowledge opens up to Kansas farmers are worth more than the Station has cost since it was established.—*Topeka Capital*.

Hon. Ed. Secrest, of Randolph, a newly appointed Regent of the College, entertained the students in a fifteen-minute speech at Chapel Monday morning. His reminiscences of Kansas during more than thirty five years, his exhortation as to home and country, and his expressions of faith in young Kansans called out the sympathy of his audience. But his tribute to our sturdy, brilliant, persistent, sunflower brought round after round of cheers.

Thirty-seven resident members of the Alumni Association met in the Reception Room Saturday evening to plan for the triennial reunion and banquet on Commencement Day. Dr. S. W. Williston, '72 President of the Association, was present. The following committees were appointed: On speaker, Prof. Failyer, Mrs. Kedzie, Mr. Ulrich, Mrs. Bowen, Prof. Willard; on music, Miss Dow and Mr. Freeman, to act with the com-

mittee appointed last Commencement—Miss Ada Little, Mr. Burtis, and Mr. C. P. Hartley. All other business is entrusted to the Executive Committee, consisting of Dr. Williston, President; Prof. Mason, Vice-president; Miss Tunnell, Secretary; Mr. Carleton, Treasurer.

The Fourth-year Class met on Monday afternoon and adopted a programme for class day. C. E. Abbot, Class President, was chosen to respond to the toast at the alumni banquet. The programme for class day is as follows:—

Spade Oration.....	J. E. Thackrey
Address.....	T. E. Lyon
Tale of '93.....	Maude Knickerbocker
Class Prophecy.....	W. J. Yeoman
Class Poem.....	F. R. Smith
Class Grumbler.....	Margaretha Horn
Class Joker.....	W. M. McCrea
Valedictory.....	Ivy F. Harner
Ivy Poem.....	May Harman

Music committee—W. E. Smith, Ione Dewey, Laura Day. Programme committee—M. F. Hulett, Fred Hulse, Eusebia Mudge.

The Mechanical Department will have next week completed two large cabinets in which the College exhibit will be made at the Columbian Exposition. Each of these cabinets is five feet square, and rests upon trestle three feet in height which are concealed by cases of the same height which sit directly against it. At the corners of the cabinets are octagons three feet in height, upon which revolve a number of double-faced frames 1 x 3 feet in size; these in turn being surmounted by octagonal pieces upon which pyramids of College products will be raised. The exhibit, which will be under glass, will be contained in the eight 5x5 frames in the sides of the cabinets, the eight 2x5 cases at the sides, and the 1x3 frames—of which there may be ninety-six—on the octagons. The cabinets are fitted with a handsome cornice, and will probably be thatched with farm products. Though not large, the exhibit will be creditable to the College, and will attract many thousands of visitors to the Kansas building.

GRADUATES AND STUDENTS.

W. I. Joss, Third-year, drops out of College till next fall.

E. H. Freeman, Second-year, is quite ill from blood poisoning.

Clara Pender, First-year last term, spent Wednesday at the College.

H. G. Pope, Third-year, is kept out of classes by an attack of pneumonia.

J. V. Patten, Second-year, spent Saturday and Sunday at home in Silver Lake.

Rena Helder, Third-year, was out of school last week on account of la grippe.

Bertha Spohr, First-year in 1891-2, has been teaching for the past seven months.

Fred Hulse, Fourth-year, is Superintendent of the M. E. Sunday-school at Keats.

Victor Emrick, Third-year in 1891-2, re-enters College for the Spring Term.

W. H. Steuart, after a terms' absence, re-enters Third-year Classes this term.

H. N. Rhodes, First-year, suffers a broken arm as the result of a kick from a horse.

Mary Lee, '89, and Mrs. W. W. Hoadley, of Manhattan, visited the College Tuesday.

Ivy Harner, Fourth-year, and Fannie Parkinson, First year, spend a day at Lasita.

E. C. Thayer, '91, came up from Lawrence Friday to spend a few days with friends.

Olga Huber, Second-year, returns from home, and will enter College for the spring term.

Maude Quintard, Second-year, leaves school this week, and returns home to Silver Lake.

Geo. Melton, Fourth-year, was detained from College one day this week on account of sickness.

Frank M. Linscott, '91, was a visitor on Friday. He talks of making his future home in Texas.

E. A. Munger, student in 1886-7, spent two days at the College this week, and appointed G. K. Thompson and Geo. W. Smith, Fourth-year

students, local agents for the Howard Apartment House, near the Columbian Exposition grounds in Chicago. Mr. Munger is manager of the Howard.

Margaret Purcell, Second-year in 1889-90, is home from the Chicago University for the Easter vacation.

Stella Kimball, Second-year, has been confined to her room for several days by an attack of scarlet fever.

E. G. Gibson, Second-year, received a telegram yesterday announcing the death of his sister, at Topeka.

John R. Callahan, student in 1887-8, is sergeant of Co. G., Sixth U. S. Infantry, in garrison at Ft. Thomas, Ky.

Eusebia Mudge, Fourth-year, visits Ellen Halstead, Second-year last term, at Leonardville, between the terms.

Maggie Correll and her brother, First-years, drop out of school this week, and will attend the World's Fair this spring.

C. A. Campbell, '91, drops out of Emporia College, this week, and takes a position with T. E. Bowman & Co., Topeka.

Will Jennings, Second-year in 1891-2, who has for the past year been clerking in Harrop's drug store, will re-enter College for the spring term.

Mrs. Kate Oldham-Sisson, '92, spent a few days with her sister at College on her return to Kansas from her new home in Toronto, Canada.

A. E. Campbell, Second-year in 1890-1, now stenographer for the General Superintendent in the Rock Island offices at Topeka, spent Sunday in Manhattan.

M. L. Graves, Second-year in 1889-90, was married recently to Miss Pearl Brown, of Bogue, where the groom is station agent for the Union Pacific Railway Company.

Mrs. Grace Parker-Perry, '80, is visiting with her parents in Manhattan before going to her new home in Goodland, where her husband, G. H. Perry, is pastor of the Congregational Church.

P. S. Creager, '91, stopped at the College on Friday on his return from a short visit to Denver and Colorado Springs. Phil is out of a job now, the agricultural supplement of the Topeka *Capital* which he edited having been discontinued.

THE WEATHER FOR MARCH.

BY PROF. E. R. NICHOLS.

Temperature.—The mean temperature for March, 1893, was 39.65°, which was 0.63° below normal. There have been sixteen warmer and eighteen colder Marches in the last thirty-six years, the extremes being 50.89°, in 1860, and 24.58°, in 1867. The maximum temperature was 87°, on the 30th. This maximum has been reached but one other March, in 1868. The minimum temperature was 6°, on the 18th—a monthly range of 81°. The greatest range for one day was 51°, on the 12th; the least, 2°, on the 16th. The warmest day was the 30th, the mean being 67.50°; the coldest, the 3rd, the mean being 27.25°. The mean of the observations at 7 A. M. was 32.45°; at 2 P. M., 49.10°; at 9 P. M., 37.87°. The mean of the maximum was 54.29°; of the minimum, 17.26, the mean of these two being 40.77°. The mean of the first ten days was 36.88; of the second, 34.48°; of the last eleven, 46.86°.

Barometer.—The mean pressure for the month was 28.834 inches, which is .06 inch above normal. The maximum pressure was 29.433 inches, at 7 A. M. on the 15th, and the minimum 28.168 inches, at 2 P. M. on the 8th—a monthly range of 1.265 inches.

Precipitation.—The total precipitation was .99 inch, which is .32 inch below normal. Rain fell in measurable quantities on the 7th, 8th, 10th, 22nd, 27th, and two inches of snow on the 16th.

Cloudiness.—There were four days entirely cloudy, one five-sixths cloudy, two two-thirds cloudy, one one-half cloudy, seven one-third cloudy, two one-sixth cloudy, and fourteen clear. The per cent of cloudiness was 30, which is 16 below normal.

Wind.—The wind was from the south fourteen times, east and west thirteen times, southwest twelve times, northwest eleven times, north eight times, northeast seven times, southeast twice, and

a calm thirteen times. The total run of wind was 10,231 miles, giving a mean daily velocity of 330.03 miles, and a mean hourly velocity of 13.75 miles. The maximum daily velocity was 627 miles, on the 13th, and the minimum 32 miles, on the 25th. The maximum hourly velocity was 39 miles, from 3 to 5 P. M. on the 10th.

Below will be found a comparison with the preceding Marches:—

March.	Number of rains.	Rain in inches.	Prevailing Wind.	Per cent Cloudiness.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Mean Barometer.	Maximum Barometer.	Minimum Barometer.
1858	5	2.02	SW	47.12	82	10	29	.....	.....	.....
1859	6	2.88	SW	45.95	74	29	24	.....	.....	.....
1860	0	.00	SW	50.89	81	24	24	.....	.....	.....
1861	0	.00	SW	41.20	79	20	20	.....	.....	.....
1862	0	.00	NW	37.27	85	8	20	.....	.....	.....
1863	0	.00	N	45.77	86	20	20	.....	.....	.....
1864	5	2.12	SW	38.21	68	19	19	.....	.....	.....
1865	5	2.27	NW	38.21	74	-8	20	.....	.....	.....
1866	4	.63	N	24.58	52	-9	20	.....	.....	.....
1867	5	.93	NW	47.88	87	19	20	.....	.....	.....
1868	4	1.06	NE	35.24	72	-2	28.80	29.30	28.30	28.20
1869	5	1.45	NE	34.82	68	0	28.69	29.15	28.20	28.20
1870	4	1.02	NW	46.92	83	22	29.18	29.18	29.18	29.18
1871	5	.92	N	37.34	73	18	20	.....	.....	.....
1872	4	.71	NE	42.02	74	3	20	.....	.....	.....
1873	1	.30	NE	37.99	68	18	28.65	29.14	28.20	28.20
1874	2	1.21	NW	36.86	80	5	28.65	29.06	28.18	28.18
1875	6	3.96	NW	32.65	66	5	28.74	29.25	28.24	28.24
1876	3	2.70	NW	38.87	76	3	28.76	29.18	28.23	28.23
1877	5	1.77	N	49.53	81	17	28.64	29.00	28.15	28.15
1878	0	.00	NW	46.63	85	10	28.67	29.14	28.22	28.22
1879	2	.50	NW	41.24	80	-2	28.57	28.99	27.97	27.97
1880	1	.75	NW	36.20	72	13	28.54	28.91	27.80	27.80
1881	2	.80	NE	46.73	78	12	28.67	29.15	28.04	28.04
1882	3	1.05	NE	39.19	73	13	28.71	29.23	28.10	28.10
1883	5	2.36	N	40.25	75	8	28.60	29.00	27.72	27.72
1884	0	.00	SW	40.34	73	15	28.67	29.14	28.22	28.22
1885	6	1.55	N	38.72	82	9	28.87	29.39	28.37	28.37
1886	3	.42	SW	42.85	83	23	28.96	29.47	28.61	28.61
1887	5	2.48	S	35.77	83	6	29.05	29.55	28.47	28.47
1888	4	1.99	S	48.01	77	15	29.05	29.42	28.48	28.48
1889	5	.13	E	37.18	77	2	28.95	29.47	27.93	27.93
1890	6	2.24	NE	33.43	69	-4	28.88	29.33	28.40	28.40
1891	7	4.60	NE	39.16	77	10	28.89	29.34	28.14	28.14
1892	3	.99	S	39.65	87	6	28.83	29.43	28.17	28.17
Means	3.5	1.31	46	NW	40.28	76.05	10	28.77	29.23	28.18

WIND RECORD.

March.	Total Miles.	Mean Daily.	Maximum Daily.	Minimum Daily.	Mean Hourly.	Maximum Hourly.
1889	6871	221.64	537	55	9.24	37
1890	8180	263.87	630	89	10.99	46
1891	9751	314.57	662	126	13.11	37
1892	11135	359.19	690	105	14.97	44
1893	10231	330.03	627	32	13.75	39
Means	9254	297.86	629	81	12.41	41

RUSTS ON GRAIN.

Bulletin No. 38, from the Botanical Department, is entitled "Preliminary Report on Rusts of Grain," and contains fourteen pages and three plates. The summary follows:—

The rust of grain is of three species of parasitic fungi, two of which, *Puccinia graminis* and *Puccinia rubigo-vera*, are found chiefly on wheat, and the third, *Puccinia coronata*, is apparently in Kansas confined to oats.

The answers to questions sent to wheat-growers show that the rust is distributed throughout the State, but that its severity is governed by local conditions. All varieties of wheat may suffer, but hard wheats suffer least, and early varieties are likely to mature before seriously injured. The most favorable conditions are warm, wet weather, such as are generally afforded by frequent showers, hot sun, and moist east wind. Under these conditions the fungus is able to produce spores with great rapidity. The rust became noticeable about the middle of June, and was most abundant from June 20 to July 1.

Those varieties of wheat which have stiff upright leaves are affected less than those with flaccid foliage. Varieties whose leaves have a thick epidermis, or whose surface is glaucous, or hairy, are less likely to rust.

Experiments in preventing rust, by spraying oats with various fungicides, were unsatisfactory, from the fact that the disease did not appear in the untreated plots. Further experiments are to be tried with winter wheat.

Observations were made on the germinations of the uredo-spores in various fungicides. In some cases, germination would take place in solutions of 1 to 100, while in one chemical, mercuric chloride, this process was prevented by a solution of 1 to 10,000.

Puccinia rubigo-vera lives during winter in the tissue of the wheat plant, and uredo-spores gathered at various times during the winter are capable of germination. In consequence of this fact, it is advisable to destroy all volunteer wheat.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

The tower of Emporia College was struck by lightning one day last week.

The annual meeting of the Northeast Kansas Teachers' Association will be held at Holton, April 20-22. J. E. Pears of Lawrence is President of the Association, and Mrs. Laura Ethrenfeld Secretary.

Governor Lewelling has designated April 13th as Arbor Day, and recommends its observance by all people. The proclamation calls upon county and city superintendents of schools and mayors and councils of cities to assume charge of the work, prepare programmes and give general directions.

The State Board of Education at its recent meeting issued numerous instructors' certificates. Prof. Striker of Great Bend, one of the new members, was present at the meeting. By the next meeting, April 12th, the new Board will assemble and the course for the institutes will be considered in detail.

The University miscellaneous appropriation bill has provided \$1500 for a new boiler, \$5000 each year for the physical and electrical engineering department, \$2500 each year for books for the library, \$1000 each year for the chemistry supplies, and \$1500 each year for additions to the natural history museum.

The Speer-Winans Teachers' Association will meet at Junction City, April 7th and 8th. The Executive Committee has arranged a strong programme, which will be rendered Friday afternoon and evening, and Saturday afternoon and evening. Free entertainment will be provided for those coming from a distance. All sessions will be held in the Opera House.

The University faculty has decided that each school in the University should have a commencement of its own. The speakers for none of the schools have been chosen except the school of arts. For Wednesday, June 7, the following have been chosen to deliver original productions: Otis Holmes, Thronton Cook, R. D. O'Leary, W. D. Ross, Misses Jo. Berry and Alberta Corbin.

The Baker University *Index* says that the new law extending right to grant life certificates under certain conditions to graduates of other institutions than the State Normal at Emporia "may cause a little inconvenience on the part of the Normal School." It adds that the standard of the certificates ought to be raised, and intimates that this law will produce the desired result. We hope that it will tend in this direction, but the truth is that the people of the State are afraid it will lower, instead of raise, the standard maintained by the State Normal School. Baker University, as well as a number of other schools in the State, will have to exert itself in order to do the professional, literary, and scientific work that the State Normal has been doing for years. But few institutions can properly claim to be ready to turn out professionally trained teachers as the State needs them.

A great many people thought that the Price text-book Bill, introduced in the House by Representative Price, of this county, had become a law. This, however, is not the case. The House passed the bill by a vote of 103 to 4, but the Senate substituted another bill instead, to which the House could not agree—so neither became law. Both bills provided for State uniformity and district ownership of text-books, and also for a text-book commission, to select the books. On the selection of the commission the House and Senate locked horns. According to the Price bill, this commission would consist of the State Board of Education and the Attorney General, while the Senate substitute gave the Governor power to appoint its members. Both bills gave the commission power to enter into contract with publishers to furnish books for the entire State for a period of five years, and to agree with these publishers on prices for the same, but the Senate bill went farther and gave the commission power to publish books if no satisfactory bids were received from publishers—\$100,000 being appropriated for that purpose. The Price bill appropriated \$1,000 to pay the expenses of advertising for bids, etc. Unless there is an extra session the text-book matter remains unchanged for two years.—*Hiawatha School News*.

WHAT A COMMA COST.

Let us not overlook the importance of trifles. In mental, spiritual, and temporal life they make and unmake, advance and retard, carry forward to success or drag down to failure. As an example of what the insignificant may be worth in dollars and cents, the New England *Grocer* cites the instance of what a comma once cost our Government. Possibly the smallest, and apparently the most insignificant, of all blunders was the most expensive one of the kind ever made. It occurred in a tariff bill more than twenty years ago. There was a section enumerating what articles should be admitted free of duty. Among the many articles specified were "all foreign fruit-plants," etc., meaning plants imported for transplanting, propagation, or experiment. The enrolling clerk, in copying the bill, accidentally changed the hyphen in the compound word "fruit-plants," to a comma, making it read, "all foreign fruit, plants," etc. The consequence was that for a year—until Congress could remedy the blunder—all oranges, lemons, bananas, grapes, and other foreign fruits were admitted free of duty. This little mistake, which the most careful man might easily have made, cost the Government about \$2,000,000.

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

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DRUGS.

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All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

DANISH DAIRY FARMING.

BY PROF. C. C. GEORGESON.

I WILL mention that I found two pieces of dairy apparatus which are not known to our American dairymen, and which I find in every well-appointed dairy in Denmark. One is the Lawrence cooler, and the other is a contrivance for heating the milk or cream to a temperature which kills all, or nearly all, bacteria which it may contain. This process is here called "pasteurization," after the great French scientist, who first called attention to this practical method of killing injurious bacteria. The milk-cooler is a metal plate, with corrugated sides. It is about an inch thick and of any size, though usually about two feet square. It stands on edge, with the corrugations running horizontally. A stream of ice water runs through the inside of the plate back and forth in a zigzag course, while the cream or milk is poured into a little trough with many fine holes in a row along the bottom, which is placed on the upper edge of the cooler, and from which it spreads in thin sheets over both sides of the cooler as it slowly moves to the bottom. It has the great advantage that it is easily cleaned, since the sides are not covered. There are other forms of coolers, but in those I have so far seen the principle is the same. This cooler is in general use when the cream is to be cooled rapidly to any desired temperature.

The principle of the "pasteurizing" apparatus is equally simple. Steam is let in between the double walls of a small barrel-shaped tank or reservoir, which contains the cream or milk, and it is so arranged that the cream runs into the machine in a constant stream and out again at the same rate after having obtained the desired temperature. A thermometer in the discharge pipe tells how hot it is, and the heat is regulated by admitting more or less steam through the valve on the steam pipe. This, too, is found in every dairy worthy of the name, and it is considered well-nigh indispensable when a fine grade of butter is aimed at. It is essential when an artificially prepared pure ferment is used for cream, as it then becomes necessary to kill all other bacteria the cream may contain before it is added.

And this brings me to that point in their dairy practice which, above all others, places the Danes ahead of the rest of the world, and which is perhaps the leading secret of the uniformly good quality of their butter: *Pure cultures of cream ferments are in common use in all good dairies.* I shall not now attempt to describe in detail what a "pure culture" is further than to say that it consists of bacteria, which in causing the fermentation of the cream give the desired flavor and character to the butter, and which have been isolated and artificially cultivated. These "pure cultures" are offered for sale by two or three laboratories, and they have met with the practical dairyman's approval, who, as stated, makes use of them in his daily practice. This pure culture is used as a starter in skim-milk at a given temperature, and when fermented this is again used as a starter for the cream.

A DANISH DAIRY FARM.

At this stage I can not do better, perhaps, than describe briefly the practice followed in a large private dairy which I have visited. I refer to the farm named Rosenfeldt, situated near the city of Vordingborg, and which belongs to Kammerherre Oxholm. This farm contains 1,300 acres. The actual number of cows on the place was 276, which number will, however, be increased to upwards of 300 by the addition of heifers soon to come in. Of the above number of cows, 223 were in milk at the time of my visit, and they produced on the

average 3,400 Danish pounds per day, or 3,747 pounds avoirdupois. This gives an average of but 17 pounds, or 2 gallons, per day per cow. If this seems like a small output, it should be remembered that it was right in mid-winter when many of them are about to go dry, and that the native Danish dairy cow is but a small animal. The average weight would perhaps scarcely reach 900 pounds per head. When these things are taken into consideration, the milk yield was not small. These cattle were fed as follows: The first feed was given them at 4 o'clock in the morning, and consisted of oats straw or barley straw, as the case might be. They got a liberal amount, and what was left was used for bedding. At 7 A. M. they were fed their grain, which averaged about 7 pounds per head, and consisted of 3 pounds barley and oats mixed and crushed, 2 pounds oil-cake, usually half rapeseed cake, and half palm cake or sunflower cake (of rapeseed cake they never feed more than 1½ pounds), and 2 pounds bran. At 8:30 A. M. they got 20 pounds sugar-beet refuse each. The beets are grown on the farm and delivered to a neighboring sugar factory, but the refuse pulp is hauled back for feed. Or if the pulp is missing, mangels are fed instead. Next they are watered in the stable, the water being turned right into the mangers, and after this they get 10 pounds each of hay from the meadow. The hay is of mixed grasses, containing also some clover. This completes the feeding for the forenoon. At 1 P. M. the feeding begins again with the same feeds in the same quantities, beginning first with the grain, then roots water, hay, and straw, keeping the cows busy eating all the afternoon, the straw being fed at 7 P. M., and this time wheat straw.

The milking begins at 4 o'clock in the morning and at 4 o'clock in the afternoon. It is all done by women, who each milk 20 cows, and they do it in two to two and one-half hours. The churning temperature is 55° F., and butter comes in about thirty minutes.

The particular ferment which was used in this dairy received the following treatment: It is sold in bottles holding about a pint, all of which is used at one time. It is not added directly to the cream, but is first propagated in skim-milk. For this purpose the milk from a fresh cow should, if possible, be selected. The milk is set in ice water for twelve hours, and then skimmed by hand. It is next sterilized by being heated to 180° F., at which temperature it should be kept for two hours. It is then cooled to 82° F., and the bottle of ferment is added, and this temperature should, as far as practicable, be maintained during the next twenty or twenty-four hours while the ferment is growing, which takes about that time. At the close of this process another batch of skim-milk is sterilized as before. It is next cooled to 50° F., then again warmed to 82° F., and 10 per cent of its weight is added to it from the ferment made the previous day. This stands again another twenty-four hours at the same temperature as nearly as may be, and then it is ready to be added to the cream, for which purpose the cream should be 70° F.

A herdsman styled "feed-master" has charge of the feeding. The milk is of course weighed as fast as it arrives at the dairy, but twice a month there is a "trial milking," at which the milk is weighed from each cow, which enables them to get an approximately correct idea of the yield of each cow. The cows do not get out of the barn all winter. When tied up in the fall they remain there till they are put in pasture the following spring, which usually occurs the latter part of

May. This, I find, is the practice on nearly all dairy farms.

The morning milk is run through the separator as fast as it arrives in the dairy from the barn, and the evening milk stands in the vat and is separated also in the morning.

The cream runs from the separator into the "pasteurizing" or sterilizing apparatus, where it is heated to 167° F., after which it is at once cooled on the cooling apparatus to 44° F. This heating and cooling is completed by about half-past seven in the morning, and from that hour until 10 A. M. it stands in ice water. It is then heated again, but this time only to 70° F., at which temperature the prepared cream-ferment is added, and it now stands for about twenty-hours, or until 6 A. M. the next morning, at a temperature of 56° to 58° F. as far as possible, while the ferment does its work, and then is churned. The amount of ferment added to the cream will in a measure depend upon the season, the cows, and other conditions. In the dairy to which this refers, it was found that of this impregnated milk 4 to 5 per cent of the weight of the cream should be added at this season to have the proper effect. And now, to perpetuate the ferment, another batch of skim-milk is prepared, as before described, to which 10 per cent of its weight is added from the lot used to impregnate the cream. And so it goes on from day to day. The ferment is perpetuated in sterilized skim-milk which is prepared fresh every day, and what was made yesterday is to-day used both to ferment the cream and to start a new lot in fresh skim-milk. On Mr. Oxholm's farm it is found necessary to get a fresh lot of ferment from the laboratory about once in six weeks.

I have briefly described the process followed on this farm because the butter made there stands in high repute. It frequently takes prizes at the national butter exhibits, and I was told that it brought usually 6 crowns per 100 pounds above the top market quotation. It is all exported to England. Nearly all the work in this dairy was done by women, and the chief dairymaid was certainly a competent person. Most of the skim-milk was made into cheese of good quality. It is possible to make good cheese from skim-milk, but the success lies in the knowing how, and I believe the time is coming when good skim-milk cheese will find a market in America.

At Rosenfeldt it required at this season 29 pounds of milk to make a pound of butter. The cream loses some of its butter by being sterilized as it was here.

Mr. Oxholm kindly drove me to a co-operative creamery owned by a company of farmers in the neighborhood, and which was known as "Renkolde" creamery. It consists of a substantial brick building equipped with engine and all necessary machinery.

The total cost of the plant was 32,000 crowns, or about \$75,000. All this money was borrowed, and all who delivered milk there became partners in the company, but each also became responsible for a share of this debt. The milk was paid for with the maximum price per pound of butter quoted by the exchange for 28 pounds of milk, this amount being taken as the standard necessary to make a pound of butter. The price for milk, therefore, varied from week to week with the price of butter. Payment to contributors was made on the 7th of every month. At this dairy they handled the milk from about 1,100 cows, and made at that time about 350 pounds of butter a day. The superintendent informed me that he made a pound of butter from 25 pounds of milk, and that during the past year the contributors of milk had received 65 ore (17 cents) per 100 pounds of milk over and above the prices agreed upon, besides paying all expenses and reducing

the debt by 2000 crowns. It was pay-day the day I called, and one could tell from the cheerful faces of the members that they were satisfied with the business. I shall take occasion to describe this class of dairies more fully in my final report.

Compared with our Jerseys, Holstein-Friesians, and milking Short-horns, the Danish dairy cattle do not impress me very favorably. Their milk is not rich enough in butter fat. I have seen no analysis of their milk that exceeded 3½ per cent of fat, and most of it falls below that. They are, however, a hardy little race, thoroughly adapted to the somewhat austere conditions under which they live.—*Extract from Preliminary Report.*

SUGAR BEETS IN KANSAS.

BY PROF. G. H. FAILYER.

A N item has been going the round of the papers, and was copied into the INDUSTRIALIST, to the effect that I have demonstrated that Kansas is not within the "sugar beet belt." I do not know what I have written or said that can be so interpreted. The Department of Agriculture at Washington has issued a chart showing the belt across the country having the mean summer temperature of the sugar-beet-growing countries of Europe. The northwestern portion of the State, only, is in this region. But this evidence is not necessarily conclusive. Other influence may give the beet of sugar-making quality a wider range than it has in Europe. Very good beets have been grown on the extreme northern line of the State. It has seemed that experience alone can determine the adaptability of our condition of soil and climate to sugar beet growing. Our experiments for two years have been planned for this purpose. Beets have been grown in many places in the State. The beets have, in general, been inferior; but these years have been very poorly suited to this kind of trials—the growing by volunteers of a trial plat. It has not seemed that any conclusive results should be expected from the efforts of these years. While it was proper that the facts should be given, and their not lending encouragement to the industry should be mentioned, care was purposely taken to refrain from making positive statements. It was felt that they are premature. The sugar-beet industry certainly deserves further trial, not by building expensive factories, but in the experimental way. When it is known that our farmers can and will raise beets of proper quality for sugar-making, the factories will be built. We do not want them before.

WHAT CONSTITUTES A LADY.

BY MAUDE QUINTARD, '95.

NO doubt we girls have wondered what standard of perfection we must attain before we can be called ladies in the broadest sense of the word. We often hear different individuals of the fair sex spoken of as perfect ladies, and we are perplexed to know what constitutes the real lady. If all these various ones are ladies, so ne are made so by birth, some by education, some by mere outward appearances, and various other means.

But do these attributes make a lady? No, they do not. Probably each helps, but not one is essential, unless it be education.

We would like to learn all about her that we may recognize her when we meet her, and will know better how to be the real lady so much admired and so loved by all. Any daughter of Eve may be a lady, from the lisping tot to the grandmother with the silvery locks. There is the little lady, the young lady, the middle-aged lady, and the elderly lady. No, age makes no difference; a woman need not be any the less a lady because she is not as young as she once was.

No more does wealth make the lady. Very often it is the case that the woman or girl in the hot kitchen making the delicate cream puffs is more of a lady than the one sitting in ease and

luxury, for whom the baking is being done. Cannot a woman eat the bread of her own hands and be a lady? Yes, I am happy to say, she can.

Nor yet is it necessary for a woman to be able to converse in several languages, play the piano, sing and paint, that she may be a lady. Some of those nearest the mark of perfection are women of only a limited education. I will admit, however, that a certain amount of education is necessary; without any education, culture, or refinement whatever, a woman cannot be a lady, for she lacks entirely the fine sensibility and tact belonging to one. The title of lady does not belong exclusively to the wives of the English lords, but any may win the title of honor.

Where is the lady? She always knows her place and keeps it. She never goes where she does not belong, or where she is not welcome. She is not on the street more than necessary, not in the low theaters and shows, not at the horse races or prize fights.

What does she not do? There are several things she does not do,—she never scoffs at anything good or sacred, does not gossip or listen to scandal, does nothing to make anybody uncomfortable or unhappy, does not flirt, does not talk or laugh loudly, especially in public, does not use slang, chew gum, or scold, does not betray confidences, break her promises or engagements, never asks impudent questions, and never boasts.

What does she do? What is she? She is always kind, thoughtful, courteous, modest, respectful, especially to her elders, and always truthful. She dresses neatly and modestly, speaks in a subdued tone, governs her temper, treats everybody kindly, always strives to make somebody's life higher.

Greater and more important than all these, she loves her maker and keeps his command, "As ye would that men should do unto you, do ye even so unto them."

I wonder how many of us are ladies?

QUEER PEOPLE WITH QUEER IDEAS.

BY MARGARETHA E. C. HORN, '93.

I SHALL ask you to picture to yourselves a small island nestling among the waves of the Baltic. This island, Fehmarn by name, is surrounded by high dikes, and situated in the western arm of the Baltic Sea, known to the inhabitants as the East Sea. At present it belongs to Germany, but before 1865 it was a province of Denmark. This island has a history, not a written one, but a history that is repeated by the people of one generation to those of the next. It is needless to say that the stories connected with it are of great interest to the inhabitants. With tears in their eyes, they will tell and listen to the story of the Danish massacre. With pride do they point to the hiding places of the only three men that escaped at that time. One hid under a bridge; another in an opening behind the altar in a church; and the other in a cave. Soon after this, the island was settled by a portion of a tribe known as the old Germans, and the descendants of these are the inhabitants of Fehmarn today.

They are an agricultural people as long as the land holds out; those that own no land, which, by the way, are at least four-fifths of the whole, support themselves and families by fishing, curing sea-grass, seafaring, and commerce on a limited scale.

The people live mostly in villages, and have their schools, which all children from six to fifteen are compelled to attend. Their religion is Lutheran. Their churches and pastors are supported by a direct tax. The churches, four in number, are magnificent structures.

These islanders are content with themselves,

CALENDAR.

1892 '93.

Fall Term—September 15th to December 23rd.

Winter Term—January 9th to March 31st.

Spring Term—April 3rd to June 14th.

June 14th, Commencement.

1893 '94.

Fall Term—September 14th to December 22nd.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan., at once.

LOCAL MATTERS.

Mrs. Hayes was a visitor at College exercises yesterday.

Preparations for the Iowan Exhibition busy many of the young ladies.

Mrs. Jackson, of Garrison, visited her two daughters in College Friday.

The first ball game of the season was played at the Park yesterday afternoon.

Rev. J. J. Lutz, of Manhattan, was a visitor at the afternoon exercises Friday.

Prof. Olin attended the meeting of the Speer-Winans Teachers' Association at Junction City yesterday.

Rev. E. Gale, of Lake Worth, Florida, visits the College often as possible during his business trip to Manhattan.

Mr. J. E. Killen, representing E. H. Hunt, seedsman and florist of Chicago, called at the College Thursday on business.

The INDUSTRIALIST is late this week on account of the pressure of printing for the College exhibit at the Columbian Exposition.

The first meeting this term of the Fourth-year Sewing class was hardly enjoyable with the thermometer 93° in the shade.

The College members of the Sons of Veterans report the presentation to their camp last evening of a fine silk flag, the gift of the Women's Relief Corps.

The Governor has appointed Secretary Graham a delegate to the Trans-Mississippi Industrial Congress, to convene at Ogden, Utah, the 24th of his month.

The Third-years held a class meeting Wednesday and elected E. A. Donovan to give the response to the Spade Oration at the Class Day exercises on Commencement.

The Library gains twenty-nine volumes of Kansas Reports by donation of the Secretary of State and the Secretary of the State Historical Society. A number of volumes are added by purchase.

The following are the Third-year officers for the Spring Term: Jennie Smith, President; Fred Jolly, Vice President; O. A. Otten, Secretary; Blanche Hayes, Treasurer; V. I. Sandt, Marshal.

Dr. Mayo has secured for the Museum a very fine pair of white pelicans, collected by Mr. Haines in the Eureka Valley. There were eleven in the flock, but only two were captured. The male bird measures 9 ft. 5 in. from tip to tip.

The State Agricultural College gets \$78,000 for buildings and repairs. The money will be well spent. It is the foremost college of its kind in the country, and costs the State less than any other of the educational institutions. —*McPherson Democrat.*

The Museum has received a fine specimen of a cinnamon teal duck, donated by George and Louis Lyon, of Junction City. A Wilson's snipe was added this week. Both are quite rare birds here, and go toward completing our list of Kansas birds.

The following officers were elected in the Iowan Society for the Spring Term: President, Eusebia Mudge; Vice President, Blanche Hayes; Recording Secretary, Miriam Swingle; Corresponding Secretary, Bertha Spohr; Treasurer, Ethel Patten; Critic, Nora Newell; Marshal, Ella Hoyt.

The letters of the Class of '91 have been printed. A copy just received bears the imprint of Gilstrap & Gilstrap—H. B. a member of the Class—publishers of the *Chandler (Ok.) News*. Forty-three of the fifty-two members of the class write

letters for publication, and it is thought that, while the other nine are not dead, they are at least sleeping, and have missed an opportunity to pass into history as makers of fun and sentiment.

The Alpha Beta Society elected the following officers for the Spring term: President Ivy Hanner; Vice-President, Geo. L. Christensen; Recording Secretary, C. C. Smith; Corresponding Secretary, W. Harling; Treasurer, E. J. Hartzler; Critic, W. O. Lyon; Marshal, Fannie Parkinson.

A feast of good things has made Chapel exercises this week unusually interesting. Wednesday morning brought an earnest address from Hon. Harrison Kelely, of Burlington, upon the importance of so using College opportunities that the College may not prove to be "the place where they polish bricks, and spoil diamonds." Thursday morning called out Regent W. D. Street, of Oberlin, who presented clearly as one chief problem for students, "How shall the brightest and best of farmers' boys be encouraged to stay on the farm?" A brief recitation by Mrs. Mary Calhoun Dixon added to the entertainment. Friday morning was enlivened by Dr. Bernard Bigsby, of Detroit, Mich., upon Thos. Arnold, of Rugby, Dr. Bigsby having been educated at that famous school.

On Friday evening, the Chapel was opened for a public lecture by Dr. Bernard Bigsby of Detroit, Mich. At the request of a majority of the students, he took for his subject the great school of Rugby, and Dr. Thomas Arnold, its famous master. An audience of nearly three hundred people greeted him, in spite of the concert and other attractions in the city, and spent an hour and forty minutes in listening to an earnest address. Dr. Bigsby described with vividness the ancient school of Winchester, where Dr. Arnold was educated; and mingled with the description most pleasing reminiscences and entertaining anecdotes of famous men whose boyhood was passed in such schools. The Doctor is an easy, fluent, forcible speaker, with large experience on the platform, and makes his audience happy from the beginning. The impression made by his analysis of Dr. Arnold's character and methods will not soon be effaced.

BOARD MEETING.

The meeting of Tuesday afternoon was called to order by President Forsyth, and the new members, Messrs. Ed Secrest, E. D. Stratford, Harrison Kelley, W. D. Street, filed the oath of office under their commissions. The Board was organized by electing the following officers: President, A. P. Forsyth; Vice-president, W. D. Street; Treasurer, Joshua Wheeler; Secretary, Geo. T. Fairchild. The Board also elected to the office of Loan Commissioner, to succeed Mr. T. P. Moore, whose term of office expires with the fiscal year, Regent Stratford, of El Dorado, who will enter upon the duties July 1st.

The following standing committees were reported by the chair:—

Finance—Regents Kelley, Secrest, and Street.

Farm Management—Regents Wheeler, Kelley, and Forsyth.

Horticulture—Regents Street, Stratford, and Secrest.

Grounds and Buildings—Regents Secrest, Fairchild, and Wheeler.

Employees—Regents Stratford, Fairchild, and Forsyth.

Tuesday evening, after sharing with the Faculty and their wives in a test of the tea prepared by Mrs. Kedzie's Cooking Class, the Board listened for an hour in joint meeting with the Faculty, to the presentation of work and wants in the several departments.

A considerable time was given during Wednesday and Thursday to inspection of the various departments and to the auditing of accounts.

Estimates of expenditures in the Experiment Station, amounting to \$1,060, were approved.

Expenditures in the several departments of the College were authorized as follows: Executive Department, matting and furniture, \$200; Horticultural Department, Greenhouse repairs and improvements, \$243; Mathematical Department, repairs of transit, \$30; Drawing Department, desk, tools, closet, etc., \$125; English Department, map frames, etc., \$30; Mechanical Department, carload of lumber, castings and tools, \$650;

Department of History, chart, \$16; Farm Department, fencing, \$100; Department of Physics, apparatus, \$125; Veterinary Department, drugs, instruments, etc., \$50; Musical Department, piano-stools and clock, \$20; Botanical Department, herbarium, \$300, apparatus, \$100.

The Committee on Buildings and Grounds was authorized to repair the walks about the College buildings with cinders, so far as in their judgment may be required, and to use the appropriation for deficiency in repair-fund for making such repairs as are most urgent.

Prof. Failyer was authorized to continue the experiments in beet culture. And Prof. George-son was authorized to seed the southeast portion of the old College place in an experimental way; and to secure for experimental purposes ten young thoroughbred steers, and as many common ones, to be kept for future experiments in feeding.

Leave of absence was granted to Secretary Graham to attend the meetings of the Trans-Mississippi Industrial Congress at Ogden, Utah, April 24th, he having been appointed a delegate from this State.

The Committee on Grounds and Buildings was urged to secure at as early a date as possible the attention of the Board of Public Works to the immediate urgency of our wants as to the steam-plant and the new building. The location of the new building was fixed by the Board at a point not more than 250 feet south of the main College building.

After various items of routine business, the Board adjourned to meet on Tuesday, June 13th, at 9 A. M.

GRADUATES AND STUDENTS.

E. J. Abell, Fourth-year, drops out of College this term.

Jessie Hunter, Second-year in '92, was a visitor yesterday.

C. E. Abell, student last year, was in the city this week.

Mayme Houghton, '91, visited in the city Saturday and Sunday.

Emma Stump, Second-year in '92, finished her school at Sedalia Friday.

Eben Blachley, Second-year in 1890-1, greeted College friends Thursday.

Grace Christy, student in 1886-7, visited College Friday afternoon.

B. F. S. Royer, Second-year, is called home by the serious illness of a sister.

Alice E. Allington, Second-year, in 1890-1, visited College Friday afternoon.

Maude Knickerbocker, Fourth-year, went to Randolph today to visit friends.

H. G. Pope, Fourth-year, has been kept from classes for two weeks by sickness.

Susie Noyes re-enters College this term and will graduate with the class of '93.

G. K. Thompson, Fourth-year, spent Sunday with his sister, Dora, at Blue Rapids.

W. O. Lyon, Fourth-year, spent his vacation between terms with his parents in Clay Centre.

Lizzie Edwards, '92, closed her school Thursday and renewed her acquaintance at College on Friday.

Mrs. M. D. Haines and daughter, Mrs. Emma Haines-Bowen, '67, attended Chapel exercises Friday.

Misses Flora and Maude Waugh attended Chapel exercises Friday, in company with Marie Haulenbeck.

Jessie M. Stearns, of Randolph, Third-year last year, visited friends in the city on Saturday and Sunday.

Mabel Farwell, First-year, left for her home in Osborne, last Friday. She will not be in College this term.

W. J. Yeoman, Fourth-year, was absent from classes on account of sickness, Tuesday and Wednesday.

Marie Senn, '90, goes to Enterprise, Kansas, to attend the silver wedding anniversary of her parents, to be held this evening. She took with her the refreshments for the evening, which had

been prepared by the Cooking Department of the College.

W. E. Smith, Fourth-year, was confined to his room the first of the week by an acute attack of tonsilitis.

The friends of C. P. Hartley, '92, will be glad to know that he is recovering from his long spell of sickness.

Mrs. May Mitchell-Winters, of Wabaunsee, student in 1891-2, visited College friends the first of the week.

C. S. Evans, Second-year, leaves College this term, and is at present employed in the Horticultural Department.

Gertie Ellenwood, of Wakefield, First-year in 1887, who is visiting the Misses Houghton, called at the College Thursday.

Laura Day, Fourth-year, has been sick for a week or more of intermittent fever. She will be able to return to classes next week.

J. W. A. Hartley, '92, closed a successful seven-months school on last Friday, and is now employed in the Horticultural Department.

A. A. Gist, '91, agent for the Union Pacific Railway Company at Victoria, Ellis County, visited with College friends on Wednesday.

J. C. Dawson, First-year in 1891, visited his wife and friends of the College Tuesday. Mrs. Dawson returned with him to their home in Yates Center.

D. G. Fairchild, '88, will spend the summer at Chicago in charge of the exhibit of the Division of Vegetable Pathology in the U. S. Department of Agriculture.

Fanny E. Waugh, '91, writes that she finishes this week a successful term of teaching, and is much disappointed that she cannot visit the College at the time of the Ionian Annual.

F. A. Waugh, '91, takes the chair of Horticulture in the Oklahoma Agricultural College at a salary of \$1500 for the first year. It is a position well suited to the man, who is equally well suited to the place.

Mrs. Lucy VanZile Cobb, Third-year in 1887, and wife of A. C. Cobb, '88, died suddenly on Friday, March 31st, at Wagoner, I. T., leaving to her husband the care of their two children and the memory of happy years.

FARM NOTES FROM VARIOUS SOURCES.

Don't think because his name is hog that filth is essential to his welfare.

The men to whom the care of country roads is entrusted are usually ignorant.—*Our Grange Homes.*

No man can stand a drain upon his resources so well as the farmer, provided the drain is on his wet land.

With really good roads, the farmer six miles from town or the railroad station would find the cost of transportation no more than one now three miles away.

The pig that is ready at eight months old yields more profit to the grower every time than do those kept to a greater age and heavier weight.—*Indiana Farmer.*

The stables may be apparently clean, and yet harbor objectionable odors. A thorough white-washing will do much to remove these. Apply the lime overhead as well as on the sides, and use it liberally.

To allow an animal to make a slow growth, and when a sufficient development has been reached in this way to feed it for market, will add to the cost to such an extent that in many cases no profit will be obtained.

The wisdom of intense farming is growing more self-evident. Small farms make near neighbors, they make good roads, they make plenty of good schools and churches. There is more money in proportion to the labor.—*American Breeder.*

QUEER PEOPLE WITH QUEER IDEAS.

(Continued from page 132)

and with their own ways, and care not to adopt the labor-saving machines long used by the surrounding world. Here is the place where the lovers of old-fashioned ways will find the father and his sons harvesting the golden grain with the sickle or cradle instead of the reaper; while the mother still hums her simple song over her spinning wheel and instructs her daughter to weave the linen that shall be her wedding dowry.

They are a sociable, home-loving people. The long winter evenings are spent in social gatherings, reading, or story telling. The legends of Siegfried and Kriemhilde, Roland the Shildraeger, and Till Eulenspiegel never grow old to them. The common people are very superstitious; haunted houses, witches, and ghosts are common every-day affairs. The witches still ride their goats and broomsticks through the air on the night preceding the first day of May. They are said to meet at any place where two roads cross, and here they are supposed to hold their nightly revel till the wee small hours of morning. In connection with this, and to give you an idea what some of their legends are like, I shall relate an old ancestral story; and I assure you that even Baron Munchausen can't beat it.

It is told that an old ancestor of mine, somewhat of a musician, was engaged to play at a merrymaking on the night before the first of May. In good faith this old bard started on his journey with his fiddle box on his back. It was dark, and he was walking alone, but he noticed that his load was getting gradually heavier, until he reached a cross road where he was unable to go farther, for he was exhausted. Voices from unknown sources cried, "We demand that you play for us this May night, that we may dance." Of course the old bard protested, but it was of no use; the witches told him he must play. The old gentleman tuned his fiddle and commenced to play some familiar strain. But lo! his music did not suit; and the witches told him that his fiddle was too old, that it squeaked. They handed him another and told him to try that. Excellent music followed, and the witches commenced the merry dance.

This was kept up till after midnight, when they dismissed the old gentleman with many thanks, giving him the new fiddle as a reward for his labor. The old man was delighted with the gift, for even he had never before heard such music as he had made on that fiddle that night. He carefully packed the instrument in the old box, and started on his homeward way rejoicing.

Of course he told the story just as it happened, and to strengthen his statement he opened the box to show his astonished listeners the new fiddle. But lo and behold! there in the box lay the skeleton head and tail of a cow, the one had served as a fiddle, the other as a bow.

Such are the stories that interest both young and old through the long winter evenings. But as Spring draws near they begin to look and listen for the stork and the cuckoo, and if by chance they should be able to jingle the coin in their pocket at the cuckoo's first call, then will they live another year in peace and plenty.

Remember that producing pork for profit is not merely a game of chance, but strictly a business.—*American Breeder.*

A quarter of an acre of good land is enough garden for one family, and it will take but an hour to cultivate that space with horse tools, and you can well afford to give an hour a week to the garden for the sake of having an abundant supply of fresh vegetables.—*Indiana Farmer.*

LABOR AND EARNINGS.

Every encouragement is given to habits of daily manual labor during the College course. Only one hour of daily practice in the industrial departments is required; but students are encouraged to make use of other opportunities for adding to their abilities and means.

All labor at the College is under the direction of the Superintendents of the departments, and offers opportunity for increasing skill and efficiency. In regular weekly statements, the students are required to observe business forms and principles, showing from their daily account when and where the work was performed.

The shops and offices are opened afternoons and Saturdays for the accommodation of skilled students in work for their own advantage. Everywhere the student who works wins respect; and it is a matter of pride to earn one's way as far as possible.

The labor of the students in the industrial departments is principally a part of their education, and is not paid for unless the student is employed—outside of required hours of labor—upon work for the profit of the College. Students are so employed upon the farm, in the gardens or the shops, and about the buildings. The labor is paid for at rates varying with services rendered, from eight to ten cents an hour. The Superintendents strive to adjust their work to the necessities of students, and give them the preference in all tasks suitable for their employment. So far as practicable, the work of the shops and offices is turned to account for their benefit; and the increasing extent of the grounds and sample gardens brings more of such labor. The monthly pay-roll for the past year ranges from \$250 to \$400.

Many students obtain work in the city or upon neighboring farms, and so pay part of their expenses. In these ways a few students are able to earn their way through College. The amount so earned will vary according to the tact and zeal of the student. The majority must expect to provide by earnings outside of term time, or from other sources, for the larger part of their expenses. The long summer vacation of three months offers opportunity for farm or other remunerative labor; and no one need despair of gaining an education if he has the ability to use his chances well.

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

RE. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc. '75.

VARNEY'S BOOKSTORE.—Popular Head-quarters for College Text-Books and Supplies. Second-Hand Books often as good as new. Call when down town. Always glad to see you.

DRY GOODS.

EA. WHARTON'S is the most popular Dry Goods Store in Manhattan. The greatest stock, the very latest style, the most popular prices. Always pleased to show goods.

CLOTHING.

ELLIOT & GARRETSON, Clothiers and Furnishers, invite students and all other College people to call and examine their large stock of new goods. All the desirable things in men's wear. Latest styles in every department.

WATCHES, JEWELRY.

JQ. A. SHELDON, "the Jeweler." Established in 1867. Watches, Clocks, and Jewelry repaired. Eames Block.

RE. LOFINCK keeps a big stock of Watches, Clocks, Jewelry, and Gold Spectacles, also Musical Instruments. '75.

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DRUGS.

WC. JOHNSTON, Druggist. A large line of Toilet Articles and Fancy Goods. The patronage of students is solicited.

HARDWARE.

AJ. WHITFORD sells Stoves and Hardware at very low prices, and carries a large stock from which selections may be made. Student patronage respectfully invited.

DENTIST.

DR. G. A. CRISE, Dentist, 321 Poyntz Ave. The preservation of the natural Teeth a specialty.

PHOTOGRAPHS.

DEWEY, the photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue.

LIVERY.

PICKETT'S NEW LIVERY STABLE.—Everything new and strictly first-class. Special attention will be given to student trade. Prices that will suit you. Stable three doors east of Commercial Hotel.

MEAT MARKET.

SCHULTZ BROS. offer Fresh and salt Meats in great variety. Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

SHAVING PARLOR.

6BATHS, \$1.00 cash. 12 shaves, \$1.00, cash. Hair cutting a specialty. All work first-class at Pete Hostrup's Barber Shop, South Second Street.

GENERAL MERCHANDISE

THE SPOT CASH STORE is Headquarters for Dry Goods, Novelties, Boots and Shoes, Hats and Caps, Clothing, and Ladies' Wraps. Lowest prices in the city.

EB. PURCELL, corner of Poyntz Avenue and Second Street, has the largest stock in Manhattan, of everything wanted by students, consisting in part of House-keeping Goods, School Books, Stationery, Boots and Shoes, Clothing, Hats and Caps, Dry Goods, Groceries, etc., etc. Goods delivered in all parts of the city and at the College, free of charge.

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COLLEGE BUSINESS.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

WHITEWASH.

BY C. R. HUTCHINGS. '94.

WHO has not smiled with a sort of contempt at seeing the snowy whiteness of back-yard fences, and reflecting they owe their respectability to whitewash? And who has not exercised care in passing a whitewashed wall, lest some of these "emblem of purity" be shed upon his garments?

Our repellent feelings are extended not only to the whitewash, but also to the thing it covers. To the first, because it is such a cheap substitute for paint, and because it rubs off so easy and does not benefit the person who rubs it off, either; to the second, because of its being so unrespectable as to need covering.

Whitewash as we see it is merely lime and water, but is used to cover the dirty, weather-beaten nakedness of unsightly fences, etc. To the observer from a distance, it is beautiful, and well indeed does it fill its office, but on nearer approach it always shows its true nature and also many of the characters of whatever it covers.

However, whitewash is met with in the lives of men and women as well as on coal sheds. It may give them an air of extreme gentility, to the casual observer—the person not in touch with them. All of us have known some persons who were gentlemen or gentlewomen by education, and not by nature. We meet them in many places (away from Manhattan), and whether neighbor, politician, teacher, or what not, we always feel like brushing our clothes when we get away from them. The whitewash of their education, semblance of virtue, or seeming friendliness cannot long be mistaken. It rubs off here and there, showing hints of the character beneath, and a season is as long as it will endure. The whitewash upon lives, as well as coal sheds and fences, may and does present a beautiful appearance from a distance, but on a closer examination will reveal its true nature. A person is as likely to be soiled by it upon one as the other. In both places it lacks, among other qualities of a better article, the quality of endurance, and must, in time, be rated at its true worth by all.

THE MARCH OF MIND.

BY E. R. FARWELL, '95.

THE student of history will see, in the development of the mind, the growth of civilization, its greatest exponent. Free government and free institutions of today are not the work of a lifetime, but the evolution of ages of the past. Master minds always rise above their surroundings and attract the world to their level. Clisthenes and Solon criticised the despotisms of the ancients, and the standard, established by these two in statecraft, the nineteenth century saw adopted in whole or in part by every civilized nation save Russia.

America was settled by a class of people who came here to have freedom of worship. When the laws of taxation became so oppressive that the people could not bear up under them, then it was that Livingston, Jefferson, Sherman, Adams, and Franklin produced a document that has never been surpassed. Does this not show the march of mind? They received their education from America's free schools.

In state affairs the master mind of Thomas Jefferson made itself manifest, and rendered the Declaration of Independence an immortal document. When the people of America became disheartened during the revolution, Franklin went to France, and by his eloquent persuasion won the sympathies of the French for the colonies in America. He, with his strong mental powers, was worth an army of soldiers.

Within touch of both Jefferson and Franklin, stood Henry Clay. He began his career as an opponent of slavery in his native State, Virginia, and was the great pacifier of the nation. He it was who kept peace on the border line for over fifty years by his Missouri Compromise and Omnibus bill. When master mind meets master mind, the conflict is momentous. When Hayne attacked Webster upon the question of state sovereignty, the whole nation listened. It was the battle of the giants. Webster's peroration is the master piece of a great mind: "When my eyes shall be turned to behold for the last time the sun in heaven, may their lingering glances see the gorgeous ensign of the Republic, now known throughout the earth, still full high, advance, its arms and trophies streaming in their original lustre, not a stripe erased or polluted, nor a single star obscure, bearing for its motto, 'Liberty and Union, now and forever, one and inseparable.' "

Hereditary privileges have been ground to earth by march of mind, and in its place has sprung up liberty in thought and expression. Our Constitution is a great charter of rights and liberties, one of the most marvelous productions of modern times. It advocates simplicity and economy in the administration of the government.

Science is being made to feel the power of mental force in all directions. We see the scientist pry up the rocks and in their strata read the world's history; see him read the story of the past, present, and future from yon bright stars.

The great advance in medical science has, in New York, reduced the death rate over thirty per cent in the last ten years. The gradual lengthening of the average duration of human life with advancing civilization has been accomplished by steadily improving life's condition. There is a club of physicians in New York who claim to have discovered how to prevent disease, and in their society, which numbers over two hundred thousand members, in nearly all States of the Union, not one case of grippe has occurred, and the Ralston Club is the health club of America.

One of the most delicate surgical operations ever performed on a patient successfully, was accomplished last year by a surgeon in California. By the aid of a small electric light, or endoscope, he was able to see the beating of the heart, and the action of other organs, while removing a tumor from the lungs.

Think of the wonderful improvement in our war weapons. Was it not only a few centuries ago that the inhabitants of this country used the poisoned dart, propelled by the bow? But now our navies and militia have the best guns that can be turned out by our manufacturers. They are making these weapons so dangerous that the time will be, and I hope not far distant, when two countries dare not go to war.

Steam drives our nails, builds our bridges, freights our grain, heats our homes, cooks our meals, washes our clothes, runs our machinery, and with electricity defies time, annihilates space, and makes the world our neighbors.

Electricity carries our news, draws our cars, lights our homes, solves our knottiest problems in chemistry, runs our sewing machines, rings our bells, and is, in fact, a master of all trades. The next century will see our letters transported across the continent in less than twelve hours, or at the rate of two hundred and forty miles per hour. As an experiment just outside of Washington, D. C., is a circular railway four miles in length. On this runs a car six feet long, one and one-half feet high, two and one-half feet wide. It is run by elec-

tricity, and makes the circuit in one minute. It is claimed that by the aid of relay stations, with superior dynamos at stated distances, this enormous speed can be maintained from New York to San Francisco.

On the one thousand five hundred foot tower at Chicago, Edison promised to place a million multi-colored lights and illuminate the midnight hour until it is as light as day. Thus it can be seen that the scientist and inventor have harnessed the two most powerful energies known, and make electricity and steam their most obedient servants. "Thus we see in the dawning of the Twentieth century man utilizing the forces of nature, thought flashed over the continent and under the seas with lightning rapidity, and the news of yesterday gathered from the four corners of the earth and presented the next morning at every breakfast table in Christendom.

The Roman army carried the plow with them and established their civilization wherever they went. But here is a mightier army than Rome ever saw, marching silently but irresistibly onward, sowing, on the one hand, unity of heart, development of mind, and adaptation of thought; and on the other hand conquering the power of superstition, folly, and crime that have for so long held men and nations in subjection. Thus in the onward march of mind we see the hope of the future, the dawn of the millennium, and the approach of that time when truth shall be our everlasting sun, and righteousness look down from heaven.

SCIENTIFIC CLUB.

March 24th.

The Scientific Club was called to order by President Willard. The minutes of the previous meeting were read and adopted. Dr. Mayo presented the paper of the evening, on "Stone Implements."

He spoke of the interest that is always excited by the finding of stone implements of a race of people of which we know comparatively little. Most of the implements which are found scattered throughout the United States were made by Indians, as few implements are found in Mound Builders' remains. The importance of placing implements and "Indian relics" in permanent museums was dwelt upon, as they would then be accessible to students, and might be of great importance. Private collections, unless very large, are soon scattered and lost, and few are wiser for their collection. Stone implements are made of almost all varieties of rock, chert, commonly called "flint," being a very common kind. Chert implements consist mainly of arrow points, spears knives, daggers, scrapers, drills, and hoes. They were made by chipping the rock by pressure applied along the edges, this pressure probably being assisted by a slight tapping upon the instrument, which would cause the chert to flake. Specimens of the various chert implements were exhibited. Arrow points with retrose barbs are commonly called "war arrows," but were also probably used for hunting.

Other varieties of stone implements were made by pecking or polishing, and exhibit a great variety.

Grooved implements, known as axes, were probably not used for chopping wood, but for peeling off bark or destroying animals, or their enemies. Others were used as stone hammers, others as mortars and pestles for grinding grain for food, or paint for decorative purposes. Other polished stones were probably used as shuttles in weaving cloth or nets, some as sinkers for nets or lines. Some known as "slick stones" were used for dressing skins, and others as sinew dressers, and others simply as ornaments or for playing games.

The method of drilling varies, some were evidently drilled by using a reed with sand, as a

core is occasionally found, others were probably drilled with chest drills. Stone pipes are quite often found, made of various kinds of stone, a very common variety is the red "Dakota pipe stone." Stone images of various animals are occasionally found, and sometimes images of human beings.

Specimens of the various stone implements were exhibited, their probable use and method of manufacture were given.

Questions and discussions followed, after which a motion to adjourn was carried.

MARIE B. SENN, Secretary.

DO YOU MAKE GOOD BUTTER?

"What did you get for your butter today?" asked one farmer of another.

"I got 30 cents a pound," replied the other.

"What! 30 cents a pound?"

"That is what I said."

"Whew! I got only 18 cents for mine. How did you manage it?"

"I saw a man's name reported in an article descriptive of a society event. I got a friend in the city to look up his name in the directory and then sent him a pound of my butter. At the same time I wrote him giving him my references, describing my process of making the butter, and laying special stress upon the cleanly manner in which all my dairying operations were being conducted, and I expressed the hope that if he and his family liked the butter, I should be pleased to forward him a regular weekly supply guaranteed to be equal to the sample. I did not have to wait long before I heard from him. He wrote: 'Will take 29 pounds weekly till further orders at 30 cents the year round. Must be equal to sample.' Since then other orders have come in from his acquaintances, and I simply can't meet the demand."

The farmer addressed was greatly surprised, but in speaking of the incident to the writer a short time ago the progressive dairyman remarked that he was as well satisfied as if he had never explained the matter, that his casual acquaintance would continue to do business at the old stand just as he had been doing for years. Such men are insensible to improvement or enterprise. —*Dairy World*.

FARM NOTES FROM VARIOUS SOURCES.

With all breeding animals make your selection as to what is best suited to your section, soil, climate, and market, but be sure that it is pure bred.—*Farmer's Home Weekly*.

The farmer that feeds all of the products of the farm to stock and takes proper care of the manure that he can secure, can maintain the fertility of the soil.—*Farmer's Home Weekly*.

There is not a farmer in the country today but can do better than he is now doing. No one but can make more clear money by studying how to run his farm right than he can by studying how to run the government.—*Farm and Home*.

Horses are liable to colds the same as men, and that which causes a cold for one may do so for the other. Are your stables so arranged that you would risk getting a cold yourself, should you remain in them during a sudden change of weather?

Given, two farmers with equal mental and physical attainments, and each with capital proportioned to the number of acres which he cultivates, the man with the small farm gets more comfort and satisfaction from his work, and quite as much net profit as the one with the larger farm. —*Farmers' Home*.

Be careful to preserve pure the brook running through the farm. It is one of the most valuable appurtenances about the place. Don't make it the receptacle for trash, decaying vegetables, dead animals, etc. We have seen the bright, clear water of a beautiful brook running over and around a dead horse or cow and carrying off the poison to be absorbed by the blood of man and beast below. The farmer who would do this should be prosecuted.—*Colman's Rural World*.

A man with out-door exercise, fresh air, and nothing more dirty than the soil to come in contact with ought to be healthy and strong if any one is.

When a man with such a chance to make so much of himself insists on getting up at three o'clock, on staying out in the hardest rains, on facing all the blizzards without an overcoat, on working like a horse till eleven o'clock at night, his days of usefulness are already much abridged. When he makes a cripple of himself at forty there ought to be some punishment for him worse than rheumatism.—*Field and Farm*.

As is well-known, farmers, as a rule, have not educated themselves for the farm, have not studied the books and agricultural and stock journals, and hence have not adopted the new and improved farm methods by which their profits might be doubled, nor have they been enterprising in seeking the best methods of marketing their crops. In other words, they have not kept abreast with the times, but are mostly walking in beaten tracks of the ages gone by, while all else has been rushing past them and outstripping them in the race of life.—*Kansas Farmer*.

Ignorance is a heavy tax gatherer.

Only good scholars will be farmers in the near future.

Every farmer can make some improvement every year.

The saving of manure is one of the secrets of good farming.

Study the conditions required by your crop, and seek to supply them.

Have a Women's Club in every school district to discuss current topics.—*Mirror and Farmer*.

When a farmer offers his stock at public sale and a few of his neighbors get together behind the barn or somewhere else and agree that they will not bid against each other for such and such animals, and thus fix an illegitimate price by refusing to compete, buying the animals at one bid or at most two, and this at half their value, they are actuated by the same spirit and employing the same methods used by the trusts which they denounce in the most lurid language. Every one of these men has the making of a monopolist in him—all that he lacks is the opportunity.—*Live-Stock Indicator*.

There can be no objection to learning by experience, provided one does not have to pay too dearly for it.

The breeder's aims should be purely practical, to produce the best possible result at the lowest possible cost.

To manage the farm to the best advantage, some time should be given nearly every day to thought and planning.

We live in an age of sharp competition and close margins in all developments of industry, and farm products are no exception.

The habits and dispositions of animals depend very largely upon the care and treatment they receive, and this is especially true of the pigs.—*Farmer's Home Weekly*.

Very numerous experiments have been recorded to show that moisture is saved by cultivation. During hot, dry weather, every foot of plowed land should be stirred on the surface with any tool which tends to keep it from baking. A loose, fine surface holds water like a wet blanket. A field kept thus may give an increase in crop over one not cultivated equal to that produced by a heavy application of fertilizers. Preservation of the soil water thus becomes of great importance. A blanket of fine soil on the surface during a hot, dry week can be of great value to the crop, and really becomes the turning point for profit if present, when loss might result from its absence.—*Colman's Rural World*.

Planting all garden stuff in long straight rows, preferably running north and south, with a grass plot at each end on which to turn the horse, used as a substitute for hand labor, is, happily, coming more and more into favor, the converts to the system including a New York *Witness* correspondent, who says: "Don't put a bed in the garden; keep all the beds in the house. When I was a boy the garden was cultivated solely with the hoe, hard work, and backache, but when I became a man I put away that childish method of procedure, and arranged to put the horse and cultivator to till the garden, and thereby secured better, quicker, and easier cultivation. And now when I work in the garden, instead of a dread, it is a pleasure, and the results in vegetables are more than doubled, and the increase in satisfaction is difficult to compute."

CALENDAR.

1892-'93.

Fall Term—September 15th to December 23rd.
 Winter Term—January 9th to March 31st.
 Spring Term—April 3rd to June 14th.
 June 14th, Commencement.
 1893-'94.
 Fall Term—September 14th to December 22nd.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address, until July 1st, T. P. Moore, Loan Commissioner, Holton, Kan.

LOCAL MATTERS.

Pres. Fairchild will give the annual address before the High School at Great Bend, May 3rd.

Dr. Mayo was confined to his room for several days this week, and Mr. Carleton had charge of his classes.

The "corner-stone" bearing an inscription or device by the Class of '93 is proposed for the new Library building.

The planting of trees and shrubs in various parts of the grounds furnishes employment in plenty for the "P. M." squads, and adds to the beauty of the surroundings.

Prof. Popenoe is packing some very interesting displays for the Horticultural Alcove in the Co-operative Exhibit of Agricultural Colleges and Stations in the Government building at the Exposition.

Secretary Mohler, of the State Board of Agriculture, gave to the students on Monday morning a hearty exhortation to good works, with congratulations upon their opportunities for preparation and for work in the world.

The Alumni Association is casting about for a chef who will undertake the preparation of the banquet and guarantee satisfaction to the hungry epicures who will gather round the board on the evening of Commencement Day.

Prof. Georgeson gave in some detail the incidents of his journey to and from Denmark on his recent mission. Many of his observations were new to most, if not to all, of his hearers, and the usual lecture hour was extended to an hour and a half without demonstration of weariness.

The College enjoyed a visit on Thursday morning from about twenty delegates to the Topeka Presbytery in Manhattan. After Chapel exercises the party, headed by student guides, many of them being friends and acquaintances, visited class-rooms, shops, and greenhouses for several hours.

A carload of cases and articles for exhibit in the Kansas Building left on Thursday in care of the State Board of Directors for the Columbian Exposition. It will be at once forwarded to Chicago, and Prof. Hood will follow next week with help to put the cases and exhibits in place.

All Departments show signs of extra commotion in final preparation of matter for the Columbian Exposition. The Printing Department is crowded with work for all, in the way of schemes and labels, but has its own extensive exhibit as well. A full description of the exhibits will be given after all are in place.

President Fairchild spent a part of Wednesday and Thursday in Topeka, in attendance upon a meeting of the State Board of Education. The Board settled upon rules for State examinations under the new law, including the matter of certificates to graduates of accredited colleges. These rules will soon be published. A revision of the course for County Normal Institutes is under way.

The exhibit of the College for the Kansas Educational display was shipped on Wednesday to Topeka, there to join work already awaiting shipment to Chicago. The general cases, counters, etc., for the State Exhibit have been made at Emporia, and were to leave for Chicago yesterday.

Prof. Wooster, Superintendent of the Exhibit, will be at work in Chicago after this week in putting all things in readiness for the opening of the Exposition.

The State Board of Public Works, on Thursday afternoon, spent several hours in consultation with Prof. Hood, who has given special study to our needs in the steam plant, and with Prof. Walters upon his sketches of a prospective building to meet our necessities in the way of Library and Science Hall. Architect Davis was interested and at home in the matters considered, and will begin work as soon as possible. The Board will hold a meeting soon with the Committee on Buildings and Grounds of the Regents, and settle definitely the plans to be worked upon.

The following are the promotions, down to and including the First Sergeants, of the College Battalion for this term: Company A.—Captain, J. E. Thackrey; First Lieutenant, C. F. Pfuetze; Second Lieutenant, W. E. Smith; First Sergeant, H. L. Pellet. Company B.—Captain, E. C. Abbott; First Lieutenant, G. W. Smith; Second Lieutenant, J. M. Williams; First Sergeant, F. R. Smith. Battalion Staff and Non-commissioned Staff.—First Lieutenant and Adjutant, A. Dickens; Sergeant Major, W. H. Steuart; Sergeant and Color Bearer, J. V. Patten.

Mrs. Winchip arranged yesterday for a public inspection of the work of students in the Sewing rooms for the Columbian Exposition. Nearly fifty garments of all descriptions, besides a large collection of samples of patching, darning, button-hole making, etc., showed every variety of advancement, and called out highest commendation from hundreds of visitors. Work sent from the Utah Agricultural College by the classes of Abbie Marlatt, '88, and E. Ada Little, '89, was also shown. It is in charge of Mrs. Kedzie, who goes next week to Chicago to arrange the Co-operative Exhibit of Women's Work in Agricultural Colleges at the Exposition.

GRADUATES AND STUDENTS.

W. S. Pope, '92, is now located at Sentinel, Arizona.

G. B. Norris, First-year, is sick, but hopes to be able to attend classes again next week.

Emma Glossop, now a teacher in the Manhattan schools, visited the College Friday.

J. B. Thoburn, Fourth-year, was called home to Peabody yesterday by the serious illness of his mother.

H. G. Pope, Third-year, who has been confined to his room by pneumonia, takes his place in classes this week.

Bessie Tunnell, student last term, is at home in Wichita, and attends Fairmont College, of which her father is President.

H. A. Darnell, '92, closed a successful seven months term of school near McFarland, and is now engaged on the Farm.

W. O. Staver, Third-year in 1891-2, re-enters College this term. He has been engaged in teaching in Johnson County this winter.

Mrs. Nettie McConnell-Williams, student in 1879-80, with her husband, spent a portion of last week visiting her sister, Mrs. Graham.

G. V. Johnson, '91, writes from Centerville, Idaho, of successful teaching, with spare hours given to study and designing with reference to the printing business.

A letter from Ella A. Barnes, First-year in 1889-90, states with regret that it now looks as if it would be impossible for her to attend the graduating exercises of her class this Spring.

G. M. Munger, Second-year last Fall Term, visited College friends this forenoon, before leaving for Chicago, where he will spend the summer. He will spend a short time in St. Louis and undergo treatment for his eyes.

P. M. Kokanour, Third-year in 1884-5, has sold one of his papers, the *Lake Arthur (La.) Herald*, managed by A. O. Wright, '92, and will give all his time to his recent purchase, the *Jennings Times*, in the same county, or parish, as they call it in Louisiana.

COLLEGE ORGANIZATIONS.

Student Editors.—F. R. Smith, Ivy Harner, Eusebia Mudge. Webster Society—President, C. F. Pfuetze; Vice-President, E. A. Donaven; Recording Secretary, H. G. Pope; Corresponding Secretary, F. R. Jolly; Critic, G. W. Smith; Marshal, F. E. Uhl. Meets on Saturday evening at eight o'clock. Admits to membership gentlemen only.

Ionian Society—President, Eusebia Mudge; Vice President, Blanche Hayes; Recording Secretary, Miriam Swingle; Corresponding Secretary, Bertha J. Spahr; Marshal, Elva Hoyt; Treasurer, Ethel Patton; Critic, Nova Newell. Meets on Friday afternoon, at 2:30 o'clock. Admits to membership ladies only.

Hamilton Society—President, T. E. Lyon; Vice President, I. Jones; Recording Secretary, O. A. Otten; Corresponding Secretary, R. J. Barnett; Treasurer, C. D. Adams; Critic, H. I. Floyd; Marshal, R. S. Kellogg; Board of Directors, W. E. Smith, E. L. Frowe, W. E. Hardy, R. K. Farrar and C. D. Lesley. Meets on Saturday evenings at eight o'clock. Admits to membership gentlemen only.

Alpha Beta Society—President, Ivy F. Harner; Vice President, Geo. L. Christensen; Recording Secretary, C. C. Smith; Corresponding Secretary, W. Harling; Treasurer, E. J. Hartzler; Critic, W. O. Lyon; Marshal, Fannie Parkinson; Board of Directors, C. H. Thompson, J. E. Thackrey, W. O. Lyon, Stella Kimball, Sadie Moore, C. M. Morgan, Onie Hulett. Meets Friday afternoon at 2:30 o'clock. Admits to membership both ladies and gentlemen.

At half past two President Thompson called the Alpha Beta Society to order. First on the programme was a duet, "Now for the Highlands," by Maude Parker and Jennie Smith. Onie Hulett was called upon to lead the Society in devotion. An oration entitled, "Seasonableness," was delivered by Walter Harling. A. E. Ridenour entertained the Society by a select reading entitled, "My School Days," after which Maud Gardiner presented the "Gleaner." Among some of the most interesting selections of an excellent edition, the editor read an open letter, a poem, and other pieces entitled, "A Prairie Fire," "Demands of Good Society," and "The Power of Thought." Immediately after recess, the Society proceeded to the election of officers for the Spring Term. By a unanimous vote Ivy Harner was elected President; Geo. L. Christensen was elected Vice president; C. C. Smith, Recording Secretary; Walter Harling, Corresponding Secretary; E. J. Hartzler, Treasurer; W. O. Lyon, Critic; Fannie Parkinson, Marshal. After a few other items of business, the Society adjourned. J. S.

President M. F. Hulett called the Websters to order. Roll-call showed as large an attendance as any evening of the year, and from the lively manner in which the business was transacted it was evident that all were there to be heard, as well as seen. Being election night, the order of debate was passed. F. J. Immerman delivered a comic declamation entitled, "A Review of the Situation," which was very much enjoyed, as was manifest by the number of times which he was interrupted by applause. This was followed by an essay by A. B. Symms, "The Niagara River." J. G. Haney delivered an exceptionally good declamation, "A Frenchman's Visit to Holland." But the honors of the evening were carried off by E. R. Farwell's oration, "The March of Mind." F. R. Jolly presented the Reporter, in a characteristic and "jolly" way, his motto being "Root, Hog, or Die." S. Dolby's discussion on "The Lazy Man" was well delivered. "The Duties of the Spring Term" were well laid before the Society by M. F. Hulett. G. W. Smith sang a solo, "Pauline" after which the following officers were elected for the Spring Term: President, C. F. Pfuetze; Vice-President, E. A. Donaven; Recording Secretary, H. G. Pope; Corresponding Secretary, F. R. Jolly; Critic, G. W. Smith; Marshal, F. E. Uhl. Adjournment. J. S.

The first meeting of the Hamiltons for this term was called to order by President Smith at eight o'clock. The hall was completely filled with members and visitors, chairs being crowded closely together from the back of the room to the President's desk. Prayer was conducted by R. K. Farrar. Roll-call certified the presence of over sixty voters, all of whom were ready to cast their ballots for the men of their choice in the election at hand. Several speeches of a high degree of earnestness, commonly heard in our society, were given while nominating members for the office of President. The first vote gave as a result eighteen votes for Rokes, twenty for Riddell, and twenty-two for Lyon. The ballot remained nearly the same until the last time, when Lyon received thirty-one votes out of fifty-eight cast. Mr. Lyon receiving a majority, is heartily welcomed to the Presidential chair of the Hamilton Society. The Secretary was instructed to cast a ballot for the Society in favor of J. Jones for Vice President. O. A. Otten was elected Recording Secretary. It was especially hard to decide upon a Corresponding Secretary. The candidates were so numerous that after balloting twice with no election, the Society suspended all rules which interfered with the Secretary casting a ballot in favor of R. J. Barnett becoming Corresponding Secretary. It took but a short time to elect C. D. Adams as our Treasurer. Six members were nominated for Critic, but the second ballot, which was by the Secretary, gave the office to H. I. Floyd. Among sixteen candidates, R. S. Kellogg was, by ballot of the Secretary, elected Marshal. W. E. Smith, E. L. Frowe, W. E. Hardy, R. K. Farrar, and C. D. Lesley were elected as a Board of Directors. Although the election was long, yet it was fairly conducted and interesting. At no time did the number of votes cast exceed the number of voters present. Owing to the lateness of the hour, the programme of the evening was carried forward one week. R. K. Buck, H. T. VanPatten, O. Bentz, H. R. Gilbert, and J. D. Trumbell were initiated. Under the head of unfinished business, the Committee favored Mr. Henson, a Baptist minister of Chicago, as the Annual Speaker for the Societies. During new business, W. J. Yeaman was granted a withdrawal card. Messrs. Lesley and Mercer favored the Society with a violin and piano duet, the appreciation of which was shown by two encores. Adjournment. W. E. H.

This fault-finding and grumbling will not help us out of our difficulty. We have got to work out our own salvation. We need more skill, gumption, study, and brains to be good farmers.—E. Whitney.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

The Northeast Kansas Teachers' Association will meet at Holton, April 20th to 22nd.

The Historical Society has selected 100 pictures from their collection to send to the World's Fair.

Prof. Jenkins, formerly a teacher at the Salina Normal School, is now teaching at Greeley, Colorado.

Emporia College has received a gift of \$50,000 in cash values, by Mrs. R. D. Merrick, of Hamilton, Kansas.

The State Board of Education have thoroughly revised the course of instruction for the County Normal Institutes.

George Kennan, the noted Siberian traveller of the *Century Magazine*, lectured at the State Normal School one evening of last week.

The "Columbian History of Education in Kansas," published under the auspices of the State Historical Society, will soon be ready. The funds did not permit the printing of more than 2,500 copies.

The largest exhibit of bound school work in the Kansas building at the Columbian Exposition will be made by the schools of Manhattan. There will be fourteen large volumes. Seneca will follow with ten volumes.

The State Normal School has arranged for an excursion to the World's Fair. A special train will leave Emporia just after Commencement, designed to accommodate the faculty, alumni, and students and their friends. The Endeavor Hotel in Chicago will be their headquarters.

F. H. Barrington, Principal of Schools at McCracken, has prepared a book which he calls "Kansas Day," containing a brief history of Kansas, a collection of Kansas authors, and other miscellaneous matter. The book will be a help to teachers in celebrating Kansas Day. It has been printed by Geo. W. Crane, of Topeka, and will be mailed to any address for \$1.60.

Principal W. H. Olin, of the Osborne schools, has adopted Prof. Carl Beiz's system of calisthenic training, and has issued a printed programme for the daily exercises of the pupils. The programme excludes all fancy movements, but includes eighteen hygienic drills, to be executed with piano accompaniment. A foot note reads: "Execute each movement with precision and vigor."

The Kansas Educational Exhibit at the Columbian Fair consists of 151 bound volumes of school-work, over 200 large wall charts of drawings and photographs, and a large collection of special work, apparatus, and manuscript work. In addition there will be large exhibits by the State University, the Agricultural College, the State Normal School, and some of the denominational schools.

The newly appointed Board of Regents of the State Normal School held their first meeting last week and elected Nelson Case, of Oswego, President; John Madden, of Cottonwood Falls, Vice-president; H. D. Dickson, of Emporia, Secretary; and A. H. Dodge, of Beloit, Treasurer. Work on the new building, or wing, is to commence at once, so that the rooms may be used, partly at least, next winter.

The collections of the schools of Kansas for the Educational Exhibit fund amount to \$5740.38. To this amount the State Board of Directors have added \$1000 for expenses of maintaining the exhibit. Those in charge believe that the work will be every way creditable to Kansas, and that the fund is sufficient to place it in good order at the Exposition, and keep a sufficient number of overseers in attendance to secure safety and attention from the millions who will visit it.

The schools in several of the States have histories of their own State for use in them. It is time that some one should write a history of Kansas, to be used in the public schools of the State. It is quite a difficult matter to get at a great many facts which should be well known in the history of our State. We are anxiously waiting for the historian of Kansas to furnish us a text book, short, concise, and containing important parts of the history of the State, from the time it was first entered by white people until as near as possible to the present, without endangering the writer's

life. It would be a great deal better if the history of the State was studied before the history of the United States. It is on the same principle that local geography comes first, other geography afterward.—*Salina Normal Register*.

The session of the Southeastern Kansas Teachers' Association held at Fort Scott was one of the most interesting ever held. At the close of the session the following officers were elected: President, Frank P. Smith, of Ottawa; Vice-president, William Sinclair, of Coffeyville; Secretary, Laura Gregg, of Ottawa; Treasurer, D. M. Bowen, of Fort Scott; Executive Committee, John Dietrich, of Emporia, A. W. Leach, of Linn county, and A. Nash, of Montgomery county. Emporia gets the next session.

IDLE TIME.

Almost any one can use his labor and that of a hired man profitably when tillage is possible. But he who is able to make every day count in the total of the year's work is getting out of debt, or laying by a little. I would not advocate using every week-day in manual labor; no one needs an occasional holiday more than the farmer, but if he puts in his time well when he pretends to work there will be better chance for vacations. There are many days in spring and summer when the work planned will have to be given up: weather may prevent, or a team be suddenly called for. We cannot best use these idle days unless we keep well in mind (or on paper) odd jobs that present themselves when we had to let them go for what we thought more important work.

To remove or bury stones that have been worked about for years will give employment. Then there is the repair of fences inclosing pasture fields; if done before stock break out, one may avoid much trouble. Clean up old fence-rows—worse than eye-sores, a refuge for noxious weeds. If farmers would carefully house and regularly paint all wagons and tools a good many men engaged in their manufacture would have to seek other employment; certainly the heaviest voluntary tax on the income of the farmer would be removed. Prepare for use all tools to be wanted soon; it is no uncommon sight to see men rushing to town for bolts, ploughshares, and so on, losing valuable time when they have no time to lose. Truly, a little forethought will so invest comparatively "worthless time" that it will give as valuable return as any.—*C. G. Williams, in New York Tribune*.

IMPROVEMENT OF HORSES.

The sooner the farmers in the United States realize the fact that the ordinary and commonly bred horse is likely to deteriorate in value year by year, the better it will be for them. The use of cables to drag street cars has already reduced the service performed by horses in the cities, and the extension of the trolley system in the suburbs and the perfection of electric motors will relieve many other thousands of horses from such service. It has not been so very long since nearly all the threshing was done by horses; now only a very small percentage of even the threshing-machines are worked by horse power. Practically all of the plowing is now done by horses; but a cheap and practical steam-plow will be shown to visitors at the World's Fair, and it is not improbable that in ten years from now quite a large percentage of plowing will be done without the aid of horses.

The need in the cities and on the farms for fewer horses will tend more and more to reduce their market value. Commonly bred horses will be the first to deteriorate in price; indeed, it is doubtful whether finely bred horses will suffer at all. There is no reason why they should. The purposes for which they are used will not be affected by any inventions revolutionizing methods of transportation or tillage.

Even though we could fly in the air with a balloon entirely under control, a spin on the road behind a pair of trotters or a gallop across the country would give just as much pleasure as it gave.

The horses that get the blue ribbons in the horse-shows will continue to be as valuable as ever, while humbler animals—those that drag street cars and plows—will be less valuable year by year.—*Harper's Weekly*.

The greatest men in America were farm boys. A large number of the most successful business and professional men of America were farmer boys. The farm is the place to produce good things of all kinds.—*Western Farmer and Stockman*.

LET LINIMENTS ALONE.

Use of liniments causes two-thirds of the unsightly, ugly scars on horses. Nature has never been improved upon in furnishing material to heal a wound. Liniments first destroy the delicate net-work of cellular tissue, and burn up the plastic fluid that nature supplies for this very process. Then nature, to make up for this destruction, pours out a fresh and increased supply of building material, and from this abundance, which must be used, results the thick, protruding bunch and scar. Had the wound been simply bandaged to keep it away from the air, the flesh would rapidly have healed with only a trace of a scar. Two-thirds of the matter discharged from wounds is the result of liniments destroying the tissue. When the wound is deep, and there is liability of a pus pocket forming, it may be best to even cut the wound down low enough for the matter to discharge of its own accord, and then keep the wound loosely bandaged and let it heal itself. Sewing up wounds is of little avail in most instances, as the stitches easily pull out. If the wound is not bloody, and full of dirt and clots, let it alone. If so, wash out with warm water, cover with a loose bandage, and let nature perform its own cures.—*John Gould*.

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc. '75.

VARNEY'S BOOKSTORE.—Popular Head-quarters for College Text-Books and Supplies. Second-Hand Books often as good as new. Call when down town. Always glad to see you.

DRY GOODS.

E. A. WHARTON'S is the most popular Dry Goods Store in Manhattan. The greatest stock, the very latest style, the most popular prices. Always pleased to show goods.

CLOTHING.

ELLIOT & GARRETSON, Clothiers and Furnishers, invite students and all other College people to call and examine their large stock of new goods. All the desirable things in men's wear. Latest styles in every department.

WATCHES, JEWELRY.

J. Q. SHELDON, "the Jeweler." Established in 1867. Watches, Clocks, and Jewelry repaired. Eames Block.

R. E. LOFINCK keeps a big stock of Watches, Clocks, Jewelry, and Gold Spectacles, also Musical Instruments. '75.

E. K. SHAW, Jeweler and Optician. Watches, Jewelry, Silver-ware, Spectacles, Clocks, Fountain Pens, Gold, Pens, etc. Repairing of Watches, Clocks, Spectacles, and Jewelry done promptly and skillfully. A written guarantee given with all warranted watch work. 308 Poyntz Ave.

DRUGS.

W. C. JOHNSTON, Druggist. A large line of Toilet Articles and W. Fancy Goods. The patronage of students is solicited.

HARDWARE.

A. J. WHITFORD sells Stoves and Hardware at very low prices, and carries a large stock from which selections may be made. Student patronage respectfully invited.

DENTIST.

D. R. G. A. CRISTE, Dentist, 321 Poyntz Ave. The preservation of the natural Teeth a specialty.

PHOTOGRAPHS.

D. EWEY, the photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue.

LIVERY.

PICKETT'S NEW LIVERY STABLE.—Everything new and strictly first-class. Special attention will be given to student trade. Prices that will suit you. Stable three doors east of Commercial Hotel.

MEAT MARKET.

SCHULTZ BROS. offer Fresh and salt Meats in great variety. Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

SHAVING PARLOR.

6 BATHS, \$1.00 cash. 12 shaves, \$1.00, cash. Hair cutting a specialty. All work first-class at Pete Hostrup's Barber Shop, South Second Street.

GENERAL MERCHANDISE

THE SPOT CASH STORE is Headquarters for Dry Goods, Novelties, Boots and Shoes, Hats and Caps, Clothing, and Ladies' Wraps. Lowest prices in the city.

E. B. PURCELL, corner of Poyntz Avenue and Second Street, has the largest stock in Manhattan, of everything wanted by students, consisting in part of House-keeping Goods, School Books, Stationery, Boots and Shoes, Clothing, Hats and Caps, Dry Goods, Groceries, etc., etc. Goods delivered in all parts of the city and at the College, free of charge.

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COLLEGE BUSINESS.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

ELECTRICAL FRAUDS.

BY PROF. E. R. NICHOLS.

UNDER this head may be classed all electric, magnetic, electro-magnetic, and electro-galvanic belts, shields, insoles, brushes, and rings. They are all absolutely worthless so far as any electric or magnetic effects are concerned. Imagination is a wonderful aid in curing certain diseases; especially is this true when the ailment is more or less imaginary. The agent is ever ready to take advantage of every opportunity to help on the deception. He will call attention to the glow (warmth) produced by the insole, the blister made by the air-tight lining of a belt or shield, or the sore caused by the zinc or copper as the effect of the electric current.

The writer had the privilege of examining an electric belt with a spinal-column attachment, the cost of the whole being twenty dollars. This was remarkably cheap, considering the diseases it was warranted to cure. The box in which the combination was packed was covered with a long list of diseases ending with etc., etc., leaving one to infer that had the box been larger the list would have been longer. The current generated by this belt was not sufficient to effect a delicate galvanometer—a galvanometer capable of indicating one-tenth of a milliampere. The minimum electric current used by competent medical men is from two to five milliamperes. In a recent libel suit in England it was brought out that the ordinary current generated by an electric belt is from one-four-hundredth to one-five-hundredth of a milliampere, considering the various paths open for the passage of this current—the lining of the belt, the under clothing, the surface of the skin—the chance of any of this infinitesimal charge entering the body may easily be imagined.

Most of these belts and shields are worn in such a manner that they form a closed circuit around the body, thus putting the body in a magnetic field if there were any current. Some recent tests in the Edison laboratory show that this can have no effect. The armature of a large, separately excited dynamo was removed. A person then placing his head in the strong magnetic field occupied by the armature was unable to tell when the current was turned on or off. Experiments were also made by rapidly reversing the current in the field magnets, and as before no effect was felt.

The London *Times* has refused to advertise any of these electrical frauds. The electrical journals are full of advertisements of all kinds of electrical goods, yet not one of them will publish an advertisement of any electric belt or similar contrivance. This fact alone is sufficient evidence of the character of these goods. In a leading agricultural paper that guarantees its columns to be free from advertisements of frauds, there appears weekly from three to five illustrated advertisements of electrical belts, insoles, or shields. But people liked to be humbugged, and this is probably as harmless a way as any.

THE NECESSITY FOR A WORLD'S COURT.

BY C. C. SMITH, '94.

WHEN civilization originated and governments were first founded, the fact that might is not always right was recognized. The individual was denied the privilege of enforcing his claims by his own strength. National courts were instituted to establish justice. They had the authority of a nation for interpreting its laws, and the power of a nation was behind them to enforce obedience thereto. Is not this an improvement on a condition where no law exists but the law of might? If this is an advantage

when exercised among the individuals of a nation, would it not be another advancing step in civilization to create such a system among nations? When an individual refuses to recognize the rights of other individuals, it is anarchy; when a State in our Government refuses to acknowledge the rights of other States, it is rebellion; when a nation chooses to vindicate its power and enforce what it believes to be its just claim, even when it conflicts with the rights of another nation, what can we call it? Whatever name we apply, it is recognized by the world as an honorable means of righting international wrongs.

But in recent years there has been a growing feeling that we need more definite international laws and the establishment of a court for application of such laws has been advocated by the leading statesmen of the age. The world is beginning to recognize the fact that war is an uncivilized and barbarous method of settling disputes between nations, and that after all it decides nothing, but merely shows the relative strength of the contending powers. A decisive step was taken in the right direction when arbitration was first resorted to, but that is not exactly the arrangement necessary. Nations are not bound to submit to arbitration, nor are they forced to accept the decision of the arbitrator. But this is the beginning of what the world will some day see in the universal court.

AGRICULTURAL CRANKS.

BY H. A. DARNELL, '92.

THERE are perpetual motion cranks, patent-right cranks, patent medicine cranks, political cranks, pedagogical cranks, religious cranks, and agricultural cranks. In fact, there are cranks in every profession and calling, if we accept the explanation that a crank is a one-idea man. Even at their best they are tiresome.

But the crankiest crank is the crank whose crankiness leads him to be cranky on everything. You ask how that can be; how can a man be a one-idea man and have ideas on everything? In just this way: His one idea is that his opinion is better than the best-founded reasons of others. You no sooner speak of anything, if, indeed, he gives you a chance to speak, than your views are immediately passed upon by this egotistic, self-appointed court. Such persons had rather live in ignorance than be convinced of a wrong. They are not a small portion of the division of cranks. While found in all society, they are most frequently met with in that class which has a fair understanding, yet not the cultivation which shows to you or me the narrow range of the most educated minds.

Being a "son of the soil," and anticipating a life on the farm, it will not appear that I reflect on that class in the statement that not the least portion of these cranky cranks are found in the agricultural ranks. It is true, too, that they are a great drawback to the development of good agricultural customs. It is they who decide against book farming; who will have nothing whatever to do with farmers' institutes or scientific agriculture; who cling to many-times tried, unsatisfactory methods rather than accept a new plan in which there is a strong probability of better returns. Such a farmer cares more for apparent than for real qualities, and he pronounces a plant, alfalfa for instance, useless because it is so stemmy, overlooking, or ignorant of, the fact that in those tissues is an abundance of rich food.

One declares that millet is wholly useless, and that a man is a fool who will feed it to horses. On inquiry it was found he never raised but one

crop, and fed that to his cattle. The only objection was that there was such an enormous yield of hay, and it was so heavy to handle that it was difficult to properly care for it. As a matter of fact, his knowledge of animals injured by feeding on millet was from hearsay, and that is no evidence at all. There are those within my observation who have fed it for fifteen years without a single case resulting unfavorably. True, this plant must be fed judiciously. Being rich in oils, it will not do to feed it as prairie hay is fed.

Many other instances might be enumerated, showing how farmers are too quick in rejecting, or frequently too slow in adopting, a favorable opinion in regard to products, hay, grains, or animals, or useful machinery. How long it does take to convince the people of a county or township of the possibility of successfully growing a new plant, or breed of animals! And what a harvest in return the one reaps who took the initiatory step! How many years it took to convince farmers that a two-horse corn planter was cheaper than planting by hand and covering with a hoe! But these improvements come, and then, "if I had only grasped the idea sooner."

SCIENTIFIC CLUB.

April 14th.

The Scientific Club was called to order by President Willard.

Miss Reed gave a review and explanation of some recent experiments made at the Chicago University, showing the growth of bacteria introduced into healthy and diseased plant tissue. The conclusion was that bacteria do not in ordinary conditions naturally occur or thrive in healthy plant tissue, but when plants are inoculated some kinds of disease germs will grow.

She also gave an account of a singular case of malformation occurring in some begonias that she had cross-fertilized. The ordinary closed pistil being inferior normally, was instead superior, while the ovules were developed on the outside of the capsule.

Lora L. Waters gave a short notice of a new book by Sir J. J. Lubbock, entitled "Contributions to our Knowledge of Seedlings." She spoke of the origin of different forms of seeds, the necessity of studying the life history and the germination of seed-producing plants, as crypto-gamic botanists study different stages of fungi and other spore-producing plants.

The Club then called for Mr. Carleton's paper, which he presented, on "Water Movement in Plants."

The first experiments bearing directly upon water movement in plants were made by Jamin in 1860. In a glass tube of very small diameter, short columns of water, when alternating with air columns, remain suspended. Such a *chapelet de Jamin*, as this series of alternating columns was called, no doubt exists in the vessels of plants, but it is only the beginning of any proper explanation of water movement. From about 1864 there have been two distinct theories concerning the ascent of sap in trees; viz., Sachs' imbibition theory, and Boehm's theory afterwards very much modified. According to Sachs' theory (Lectures on Plant Physiology), the molecules of water move with great mobility among the molecules (or at least among the micellæ) of the liquified cell walls, while Boehm says the movement is within the vessels, and caused by differences in air pressure.

Recent investigators have cast aside entirely the imbibition theory of Sachs, but they have only in part accepted Boehm's theory. Since the pressure of the atmosphere is a primary cause in the latter theory, it could not account for a movement through more than ten meters height, at most.

Westermaier in 1883 gave, as the moving force, the endosmose in living wood perenchyma and medullary rays, and accepted the force of capillarity as a support for the overplus of water exfiltrated into the vessels and held as reserve water. Godlewski, a little later, accepts Westermaier's views, but makes further application of them in the interchange of water in tracheides and medullary rays, by way of the bordered pits, in coniferous trees especially. He also gives a summary and criticism of the entire discussion on water movement in plants.

Taking from all investigations those statements that have been best established, our present knowledge of the subject is about as follows: 1. The water is drawn by osmotic force from the soil through the roots into the stem. This part of the movement may be called absorption, and the force employed is very great. 2. The further movement through the stem takes place, (a) in part, and primarily, by means of endosmose from cell to cell of the living wood perenchyma and medullary rays, or, in case of conifers, especially through the bordered pits connecting medullary rays, with tracheides and the latter, with each other (b) also in part by means of columns of water exfiltrated into the vessels, supported by capillarity, and especially used as reserve water to be drawn upon when there is less active movement from below. This part of the movement may be called the ascent of the sap in the stem. 3. Finally, having ascended the stem, the water passes by osmosis, again, through the mesophyll of the leaves, taking the place of that lost by evaporation from the surface. This is the part of the movement called transpiration.

Boehm, in a very recent article, claims to have proved by experiments, on the "Transpiration of Cooked Branches,"* "that osmotic absorption takes no part at all" in water movement. In these experiments, branches that had been placed in water heated from 90° to 95° C. for five minutes, and in which therefore all osmotic action had been destroyed, continued afterward to transpire even more rapidly than the control specimens.

TEACH THE BOY

In a recent discussion of agricultural interests, R. N. Day, of Nebraska, took occasion to severely criticise the failure of our common schools to educate the farmers of the next generation on certain necessary lines. "The average farmer boy," he says, "goes to the little red school-house to get his mite of 'reading, writing, and arithmetic,' and while some pains may be taken at home to teach him how to plow corn, how to milk, feed steers, and pigs, etc., not ten per cent of them get the first inkling in regard to planting a tree or seed in the vegetable garden, or the grove, or the selection of a variety or species. If a little show of this work is done on the place of the average farmer, the boy is not here to see it, as he has no time for such putting. Such young men get places of their own in due time and start with the impression that the field crops, the milk pail, and the feeding yards, are the main essentials of home, and, if most convenient, the pig sty may as well be in the front yard as the rear. Is this overdrawn? If any one believes so let him take an overland trip for one hundred miles through our noble young territory.

"What a contrast would be furnished by a ride through the rural districts of Germany! There the elements of horticulture are taught in the district schools, and at home the boys and girls urge the old folks to plant trees, shrubs, and flowers, and they can teach the old folks some lessons on seed growth, reasons for modes and methods, and reasons why trees, shrubs, and flowers should be found about the home in suitable places. If we had the elements of horticulture taught in our schools how long would the calling of the tree peddler prove profitable on its present plan of selling 'tree' blackberries, 'tree' strawberries, etc.?"

FARM NOTES FROM VARIOUS SOURCES.

When you see cattle licking each other, don't mistake it for affection. Give them salt.

Keep your fowl houses clean and the floor covered with dry earth.—*American Poultry*.

Weeds are the enemies of the farm as dirt is the enemy of the house. Keep clean.—*Our Grange Home*.

An unventilated poultry house is simply a breeding place for all diseases that fowls are subject to.

The sheep business is all right; it is the way they are raised that is at fault.—*American Grange Bulletin*.

The care bestowed upon any business determines the amount of profits.—*Western Farmer and Stockman*.

Pure air and clean water are demands of nature. Be sure your animals have plenty of both.—*American Breeder*.

The cow that does not produce 250 pounds of butter per year is not up to what should be the minimum standard.

Have you ever tried to induce the boys and girls to cultivate flowers? It is a grand means of desirable education for children.

Cattle with horns seem to know their power and make an exhibit of total depravity noticeable to every herder.—*J. K. Walker*.

Poor feeding and worse care will handicap a farmer, no matter how good the stalk he starts with.—*American Grange Bulletin*.

Is it an old story; the best tools do the best work, no matter whether it is a plow, a saw, a mower, a cow.—*National Stockman*.

No matter how good a pedigree an animal may have, do not use it for breeding unless at the time it is in the very thriftiest condition.—*Farm Life*.

The Chinese, who have studied nature's economies more than any other people, are poultry raisers. They know it to be a cheap way of producing food.

Contentment is the main thing to live for, but a man can never attain it when he has vague suspicions that his present course is full of imperfections.—*Farm and Fireside*.

The time will never come when there is nothing to learn. The farmer who says that he knows it all only proclaims his ignorance by the claim.—*Western Farmer and Stockman*.

The farmers who are successful are those who never lose sight of the fact that the farm is a home; that everything done toward beautifying and improving the place is enhancing its value.

When the average products of our farm approach the best records of the best farmers we shall be able to feed at least four times as many people as we now feed.—*Farmers' Home Weekly*.

Buy little and sell much if you would prosper. That does not mean that you should scrimp and live poorly, but that most of the supplies should be produced at home.—*Western Farmer and Stockman*.

A very good way to cover long distances in country driving without fretting the horses is to favor them on up grades and in the mud, and make up for lost time on hard, level stretches of road.—*Driftwood*.

If given good treatment, poultry pays, but if left to look out for themselves, as is so often done, this profit will necessarily be small. With poultry, as with much other farm work, every advantage must be taken if the best profit is realized.

Read and study the market reports to learn the sort of stock that bring the highest prices; this will show which way the wind blows. The next thing to do is to go to work and raise that grade of stock.—*American Grange Bulletin*.

Do you want to get the best possible results for yourself out of the farm, the factory, the store, the bank, the publicatio office, or the professional career? If so, do not lose sight of the necessity of closely identifying yourself with your business or profession in all its principal details. There are occasional accidental successes with which the individuals chiefly benefited seem to be

CALENDAR.

1892-93.

Fall Term—September 15th to December 23rd.
 Winter Term—January 9th to March 31st.
 Spring Term—April 3rd to June 14th.
 June 14th, Commencement.
 1893-94.
 Fall Term—September 14th to December 22nd.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address, until July 1st, T. P. Moore, Loan Commissioner, Holton, Kan.

GRADUATES AND STUDENTS.

Helen Green, student in 1889-90, was a visitor at College yesterday.

Kate Pierce, Third-year, was detained from classes Tuesday by sickness.

W. E. Smith returned to classes Tuesday after a severe attack of sore throat.

Bessie Morrison, Third-year in 1891-2, attended Chapel exercises Monday.

Maud Parker, Third-year, has been absent all the week on account of tonsilitis.

Gertrude Havens was kept from College last week by the illness of her sister.

Anna Hall, student last term, is teaching a select primary school in Manhattan.

Seward N. Peck, '87, was married on April 19th to Miss Lena McGuire, of Topeka.

Lottie Short, '91, has charge of the Domestic Department during Mrs. Kedzie's absence.

Flora Allingham, Second-year in 1891-2, closed her school at Oak Grove on Friday last.

Ida Dougherty, Second-year in 1891-2, accompanied by Laura Bradley, was a visitor Friday.

Blanche Hayes has been absent from Third-year classes part of this week on account of sickness.

Jessie Whitford, Second-year in 1890-1, with Miss Baker, attended College exercises yesterday afternoon.

J. B. Ridenour dropped out of classes last week on account of a fire at home which destroyed his father's barn.

Susie Hall, Fourth-year, spent Saturday and Sunday at Keats with her friend, Mrs. Kate Oldham-Sisson, '92.

A letter from Ellen Halstead, Second-year last term, states that she is now clerking in her father's store at Leonardville.

Ada Rice, Second-year in 1890-1, closed a successful term of teaching last week. She is in Third-year classes this spring.

G. L. Clothier, '92, Superintendent of Public Instruction of Wabaunsee County, was welcomed by College friends on Tuesday.

M. H. Markham, of Cowley County, an old College student, has been appointed Assistant Warden of the penitentiary.—*Manhattan Republic*.

Lillie Deen-Mosgrove, of Salida, Colorado, Third-year in 1888, who is visiting her sister, Mrs. Lantz, renewed her acquaintance at the College on Tuesday.

Mrs. Pamelia Hoyt-Mills, Second-year in 1890-1, writes from Logan, Utah, of preparing many cans of fruits and jellies for the Utah show at the Columbian Exposition.

R. K. Peck [Fourth-year in 1884-5] has been promoted, since moving to Conway Springs, and is now a mail clerk of class 2, in receipt of \$900 a year.—*Junction City Tribune*.

Fred Kimball, Class of '87 at the College, son of Richard Kimball, has been given a permanent run as mail agent. His route is from Hastings, Nebraska, to Oberlin, Kansas, with headquarters at the former place.—*Manhattan Republic*.

Ruth T. Stokes, '92, post-graduate, was called home to Garnett on Monday by the serious illness of her brother, the result of a kick from a horse received a week or two since. Her class in grammar is cared for by Marie Senn, '90.

Bertha Kimball, '90, is equally at home with pen or brush. Many of the drawings she has

made for the Entomological Department of the College, during the past year, will form a part of the College exhibit at the Exposition, as will also a painting of a new amaryllis from nature.

J. M. Leggit, Jr., and Homer Mechem attended the State Agricultural College at Manhattan for a while during the winter, and now their fathers are in some doubt as to who is running the home farms, but the supposition is that the boys are now boss. —*Ottawa Republican*.

George Rose, of Rosedale, Kansas, a College student in the early 'seventies, has been granted a life diploma by the State Board of Education. This is done under a rule that when an individual has held a State certificate for ten years, a life diploma shall be granted.—*Manhattan Republic*.

The *Country Gentleman* of April 13th contains a page description, with illustrations, of the famous dairy barn at Ellerslie, planned by H. M. Cottrell, '84, "the very able Superintendent whose services Mr. Morton was so fortunate to secure." Mention is made in the same article of the butter-making building, managed by W. W. Robison, Second-year in 1891-2.

Geo. A. Gale, Class of '77 of the College, for eight years a resident of Lake Worth, Florida, contemplates a visit to his alma mater this summer. He hopes to be here in time for Commencement, June 14th, and will be accompanied by his family—wife, and boy of nine years. Mr. Gale's many friends will be pleased to know that he is prospering in a business way.—*Manhattan Republic*.

LOCAL MATTERS.

Engineer Gundaker was kept at home for two days this week by sickness.

Capt. Bolton was not able to meet his class in Military Science on Monday because of sickness.

Copy for the thirtieth Annual Catalogue of the College will be in the hands of the printer next week.

The Farm Department has two stock advertisements in this issue. If you have stock for sale or exchange, it may be to your interest to read them.

Prof. Hood and Mrs. Kedzie left on Wednesday for Chicago to arrange the College exhibit at the Columbian Exposition. They will be absent about two weeks.

Lieut. Morrison, Professor of Military Science and Tactics at this College from 1887 to 1890, and stationed for the past three years at Fort Assiniboine, Mont., has been detailed as instructor in the Fort Leavenworth Military School.

A number of persons saw the whirlwind that swept through the College grounds from the northwest last Sunday afternoon and passed on toward town without, however, doing any damage beyond leveling the old barn on the Cottrell place, near the main entrance.

The following resolution was adopted by the Fourth-year Class at a meeting called yesterday morning:—

"Having learned the sad news of the death of the mother of our friend and classmate, Joseph B. Thoburn, be it resolved, that we, the Class of '93, tender to him our heartfelt sympathy in his deep affliction."

A division of the Fourth-years entertained the students and visitors yesterday in the discussion of the following subjects: "Effects of Wealth, Good and Bad," Fred Hulse; "Development through Work," G. L. Melton; "Will Power," Onie Hulett; "Physical Training in Schools," W. D. Morrison; "Advertisements," H. L. Pellet; "A Reform Necessary," J. D. Riddell.

The Sewing rooms, in spite of the fact that Second-year girls must take Dairying this spring, have over one hundred reporting for their daily industrial in sewing. Some idea of the work accomplished may be gained from the statement that during the past two terms students have finished over 100 dresses, over 650 other articles of apparel or household comfort, and 750 bags, towels, etc.

Mr. T. T. Hawkes, for several years Superintendent of the Carpenter Shops, writes to Prof. Mason from Boston, where he has worked at his trade for two years past, that he has bought a for-

ty-acre farm near Wells, Me., and will at once enter upon the peaceful life of an agriculturist. He mentioned the further interesting fact that his year-old boy is a lusty fellow almost as big as his dad.

WANTED—THOROUGHBRED STEERS.

The Experiment Station at the College desires to buy or exchange for Shorthorns and Aberdeen-Angus cows and heifers, TEN THOROUGHBRED YEARLING STEERS, either Shorthorns or Herefords, or both. Must be good individuals, and recorded or eligible to record. Also ten common native yearling steers, with but little or no improved blood in them. Address propositions to

PROF. C. C. GEORGESON,
Manhattan, Kansas.

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Student Editors.—F. R. Smith, Ivy Harner, Eusebia Mudge.

Webster Society.—President, C. F. Pfeutze; Vice-President, E. A. Donaven; Recording Secretary, H. G. Pope; Corresponding Secretary, F. R. Jolly; Treasurer, S. A. McDowell; Critic, G. W. Smith; Marshal, F. E. Uhl; Board of Directors, E. M. Curtis, J. C. Stingley, J. U. Secrest, E. H. Freeman, and S. H. Creager. Meets on Saturday evening at eight o'clock. Admits to membership gentlemen only.

Ionian Society.—President, Eusebia Mudge; Vice President, Blanche Hayes; Recording Secretary, Miriam Swingle; Corresponding Secretary, Bertha J. Spohr; Marshal, Elva Hoyt; Treasurer, Ethel Patten; Critic, Nora Newell. Meets on Friday afternoon, at 2:30 o'clock. Admits to membership ladies only.

Hamilton Society.—President, T. E. Lyon; Vice President, I. Jones; Recording Secretary, O. A. Otten; Corresponding Secretary, R. J. Barnett; Treasurer, C. D. Adams; Critic, H. I. Floyd; Marshal, R. S. Kellogg; Board of Directors, W. E. Smith, E. L. Frowe, W. E. Hardy, R. K. Farrar and C. D. Lessley. Meets on Saturday evenings at eight o'clock. Admits to membership gentlemen only.

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April 19th.

The Ionian Society, together with many visitors, met in the Ionian Hall immediately after Chapel exercises. Society was called to order by President Newell, after which a song was sung by the Society, followed by devotional exercises by Miss Norton. The roll showed a large attendance. Officers for the Spring Term were installed, and took their various places. President Mudge, in a few brief words, expressed her heartfelt thanks to the Ionians for making her President of such a worthy Society. She spoke encouragingly and inspiring to the younger members. Nora Newell's response was followed by a Parody by Susie Hall. Declamation, Miss Minnis, after which a vocal solo by Eva Staley closed the programme. Report of committees; unfinished business, new business, propositions for membership, assignment of duties, reading and adoption of minutes, after which Society adjourned. B. J. S.

April 15th.

At exactly eight o'clock, a few sharp raps of the gavel in the hand of President Hulett called the Webster Society to order. Roll-call showed a large attendance of enthusiastic members. H. A. Darnell led in prayer. The officers of the Spring Term were then inaugurated. Ex-President Hulett, in his valedictory, thanked the Society for their co-operation with him in making the last term one of the most prosperous and interesting in the history of the Society. President Pfeutze responded to the call of "inaugural" with a few well-chosen remarks, showing that he would be true and loyal to the trust bestowed upon him. H. C. Rogers was then initiated, and received with the hearty welcome which only Websters can give. The question, "Was the Faculty justified in making the law which they did in regard to ex-members taking part in the annual exhibitions?" was ably argued on the affirmative by G. K. Thompson and J. Stingley, and on the negative by M. W. McCrea and T. W. Morse. Decision in favor of the negative. The society was then entertained by a cornet duet by Messrs. Paul and Arnold. After recess, Mr. Coleman read a well written essay, entitled "Japan, and the Japs." C. R. Pearson's orchestra played three selections, which brought back the memory of happy days on the farm when the kitchen was turned into a ball-room. Messrs. Paul and Arnold were again called upon for music, and responded with a very fine selection. Under the order of discussions, S. R. Vincent discussed the "Hornet" in an able way, giving good advice to the present "bug" class as to the best method of handling it. The following Board of Directors was elected: E. M. S. Curtis, J. C. Stingley, J. U. Secrest, E. H. Freeman, and S. H. Creager. Adjournment.

F. R. J.

April 14th.

President Thompson called the Alpha Betas to order at 3:30. The exercises opened with instrumental music by Misses Parkinson and Secrest. Mr. Thackrey led in devotion. During the installation of spring term officers the retiring President, in response to calls from the members, said a few hopeful and inspiring words to the Society. Miss Harner, on taking the chair, delivered a short "inaugural," postponing a long speech until she should yield the chair to another. Next was a recitation by Lula Jackson, entitled "The Smack in School." Following this came an essay by Miss Moore, on "Our Summer Vacation" at the Ottawa Assembly. Question for debate, "Resolved, that the restriction of foreign immigration would be detrimental to the United States." The affirmative, A. E. Ridenour and M. G. Spaulding, said that the advancement of a nation is due to its people, and the mingling of nationalities had done much for the United States. Our varied industries now open more places than there are American laborers to fill. The successful prosecution of railroad building, mining, and manufacturing is owing to these laborers from abroad. In most cases, the children of the foreigners were soon brought to the American

standard by education. As to carrying out restrictive measures, the difficulties that would arise in discriminating would be too great to surmount. The negative, E. J. Hartzler and R. W. Rader, first illustrated the benefits arising from restricted immigration, such as proposed, by directing our attention to Switzerland. The internal quietness of that republic is in strange contrast to the condition of our own country. We have enough laborers here if they would only betake themselves to work. The greatest reason that so many foreign laborers were found was because they would work for wages such as would shut out Americans. We need a higher standard of citizenship than can be reached with the present influx of foreigners, especially those from southern Europe. Immigration increases the per cent of illiteracy in the States. Though the foreigners were once desirable, they are no longer so; especially since many of our strikes and other domestic troubles appear to be largely due to them. The Judges, Messrs. Hulse, Timbers, and Norton, decided in favor of the negative. J. E. Thackrey presented his last Gleaner, containing articles on "Education," "English Literature," "The Farmer in the Sample Room," etc., and also a poem on "The Dust." After recess, Mr. Lyon gave us a solo, "The Master Stood in His Garden," accompanying himself on the organ. Under informal speeches, J. M. Westgate told of a prosperous manufacturing town he had visited in the East. He thought the only reason that we did not have such here was because we were unwilling to wait as long as was necessary to establish a paying business. D. Timbers spoke on "College Socials," and C. M. Buck on "Working Under Two Masters." The "College Social" was then submitted to a running fire of remarks, several members ably defending the institution, and the opposition failing to offer a substitute. From this we passed to Society business.

W. H.

April 15th.

President Smith being absent, Secretary Painter called the Hamiltons to order and asked Mr. Rokes to take the chair. Roll-call showed that about seventy members would be in Society this term. Prayer, M. V. Hester. After reading of the minutes of the previous meeting, all the officers which were elected last Saturday night were inaugurated, and in response to the call for an inaugural, President Lyon gave a short talk which showed that he had the best interests of the Society at heart and would do his part to make it a success during the coming term. The first on the program was a declamation by H. G. Johnson, on the "Influence of Education," after which H. M. Thomas recited a very amusing medley. The next was the debate, on the question "Would a Student's Paper be to the best interests of the Institution?" Affirmative, R. K. Farrar and C. F. Doane; negative, R. J. Barnett and C. S. Pope. The Judges, Adams, Lesley, and Morgan, decided two to one in favor of the negative. Newsmen E. C. Joss read the news of the week in a very pleasing manner, and H. I. Floyd's select reading of "Betsy and I are Out" was received with hearty applause. Next on the program was an interesting discussion by V. I. Sandt, on "The Catching and Canning of Salmon," after which the Society adjourned for a ten-minutes recess. After recess, C. D. Leslie played a piano solo, A. L. Peter, committee, which closed the programme. After a short time spent in unfinished and new business, the question for extemporaneous speaking, "Is it justifiable to allow no one but active members of the Societies to take part in their annual exhibitions?" was fully discussed, the weight of the argument seeming to be that in as much as the exhibition is supposed to be a representation of the work being done in the Society, it is justifiable. After report of Critic and assignment to duties, the Society adjourned.

R. J. B.

THE INTELLECTUAL FARMER.

We have long believed that the progressive farmer should stand as high in mental attainments as any other class. By force of his daily life he ought to be an eminent naturalist and philosopher, noted for his love of science, complimented for his virtue, purity, and integrity of character. While but few will admit that he occupies this high plane, yet he stands really higher than the urban whose chief thought and care is to get money. What shall it profit a man if he gain the whole world and lose his soul?

History, sacred and profane, ancient and modern, tells us that farmers have been both eminent and useful. God called Gideon from the threshing-floor to deliver his land from its oppressor. He also called the youthful David from the sheep-fold to conquer the Philistine giant and champion, and to occupy a throne.

The Romans called Cincinnatus from his plow to deliver the country in time of great peril, and right well did he accomplish what he undertook, and then he returned to his plowing. In a more recent age, have we not our own noble George Washington and many others to point our morals?

When the farmer once awakens the latent intellect that is in him, he will occupy the high plane he merits. Let him cultivate his mind as diligently as his land—he can do both at the same time—then society will hail his advent as its chief good, and he will take his place on the apex of the pyramid, as he now upholds the whole fabric on its base, the chief factor in its wealth, accumulation, and marvelous prosperity.—*Home, Field, and Farm.*

What manner of man is he that would not choose to raise fruits enough to give the robin a part, or use some means to protect them rather than engage in a cruel war of extermination? If all the birds that are fond of ripe fruits are to be marked for slaughter, then heaven save the land.

FARM NOTES FROM VARIOUS SOURCES.

(Continued from page 140.)

connected only by proxy. But these are only occasional and only accidental. The old rule, never abrogated, and never in any sense suspended—"There is no excellence without great labor"—is closely personal in its application. And to the farmer this means, as much as to any other man, that it is his own hand which must guide if he would make the most out of his opportunities.—*National Stockman and Farmer.*

It is poor policy to always sell the best animals. Good stock to breed from, a good dairy cow, a good farm house, will pay you to own, as well as anybody else. Keep the choice and utilize their whole earning power at home.—*Farm Life.*

Among the later advances in agriculture may be named the practice of spraying fruit trees and vines. It seems to be an unqualified success wherever practiced however, and so may safely be put down as a great step forward.—*Western Farmer and Stockman.*

How many men starve the minds of their families! Provision should be always made for a reasonable supply of good reading matter. Books and papers are a part of life in this enlightened age, and it is cruel to deny access to them.—*Western Farmer and Stockman.*

It is a dangerous thing to experiment with drugs and medicine when a horse gets out of condition from hard work. The best plan is to give rest and time for recuperation. If this cannot be done, dieting and caution in feeding is the next best thing.—*Our Grange Homes.*

For what do you read your agricultural paper? Do you read it and forget what you read the next day, or do you sift out the advice applicable to your surroundings and put it into practice? The value of your paper to you will depend upon the number of ideas gained that you reduce to practice.—*Our Grange Homes.*

A firm of horse dealers in Baltimore sold a horse which they knew had the glanders. The purchaser contracted the disease and died. The widow has very properly sued them, placing the damages at \$25,000, and if justice is done will get it. But the firm should be criminally prosecuted besides.—*The Examiner.*

THE SMALL FARM A HELP TO AGRICULTURE.

Farmers who grasp more land than they can properly cultivate, use its available plant-food, and then leave it to posterity so depleted of fertility that it will not pay cultivation, are robbers. Those who succeed him must go to work and restore the lost fertility at considerable expense before they can expect to raise remunerative crops. On the other hand, the farmer who becomes legally possessed of as much land as he can cultivate well, restores in some form the plant-food carried off in his crops, and passes his fields down to posterity with value unimpaired, is a benefactor of his kind, and, instead of causing poverty, increases the public wealth. A large majority of the world's laborers can earn their bread more easily in other employments than agriculture; it is for their interest that the soil be cultivated and owned by those best qualified by nature and training for producing food, for such can produce the cheapest food.

The main objection that can be urged against small farms—that our most costly machinery cannot be used with greatest economy on them; that the annual use of such machinery would not equal the interest on cost and deterioration—may be overcome by copying the example of other intelligent business men; namely, combine their capital, organize joint stock companies to purchase and own such machinery; also such seed animals of improved stock as cannot be owned with economy by single farmers. This has been done satisfactorily, I am confident, if done in a business way, every man in the company receiving what justly belongs to him, and no more. It may be argued that machinery cannot be used to advantage on the small fields into which small farms are generally divided. But the small fields can be enlarged by removal of expensive division fences, and growing the different crops on longer and narrower plats. Movable fences to fence in animals at pasture can be used and most of the fences now in use dispensed with.—*P. C. Reynolds, in New York Tribune.*

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The Farm Department of the College offers to sell some HIGH-BRED ANIMALS, including several

Shorthorn Cows
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two Shorthorn Bulls

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An Aberdeen-Angus

Bull Calf

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THE INDUSTRIALIST.

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The Experiment Station should be addressed through the Secretary.

HARDINESS OF GRAPEVINES.

BY PROF. S. C. MASON.

IN the *Kansas Farmer* of April 19th appears the following communication from Prof. F. A. Waugh, of the Oklahoma Experiment Station:—

White varieties of grapes have been shunned by the general planters, very often through a belief that they were not so hardy as the black sorts. There is more or less reason for this. I happen to have at hand a note which illustrates the point. Last year, spring of 1892, there were planted on the grounds of the Oklahoma Experiment Station 360 two-year-old grape vines. These were of 120 varieties. In ordering this spring to fill vacancies, I was much impressed by the comparatively small number of failures among the black sorts. The number of vines of each class set out and the percentage of failures are as follows:—

	White.	Red.	Black.
Number of vines	108	87	165
Percentage dead	15.7	26.4	7.2

Roughly estimated, then, there were lost about twice the proportion of whites that there were of blacks, and about three times the proportion of reds that there were of blacks.

It is not claimed here that these figures show any real comparison of the hardiness of the class. But they do seem to indicate that there is a difference. It is not mentioned as an argument against planting white or red grapes. The note is merely an interesting fact. One who cares for nice grapes can afford to run a great risk for the sake of eating Empire State and Delaware.

The facts cited above would convey the inference, if the accidental living or dying of a certain number of young grapevines has any significance at all, that the hardiness of the various varieties of grapes and the color of their fruit were in some way associated. The risk of drawing an inference, even from one season's behavior of any lot of vines or trees would be great, and any deduction as to whether hardiness or the reverse is due to the simple accident of color would need to be based on a long series of observations. The figures given would make a strong case in favor of the hardiness of black sorts, yet it is easy for any one familiar with varieties of grapes to call to mind such as Black Eagle, Herbert, and Mills, which will withstand only about the same degree of cold as will peach trees without suffering the killing of most of their buds. The apparently strong case against the reds is easily sustained by the reference to such sorts as Brighton, Lindley, and Poughkeepsie Red; yet few varieties are more hardy than Dracut, Amber, Venango, or Wyoming Red, while Delaware, so far from being tender, is grown with wonderful success in Southern Minnesota, with only slight winter covering. Similar examples may be had in the tender white varieties, Prentiss and Triumph, offset by the entirely hardy Elvira and Green Mountain.

Is not the question of hardiness to be explained by some other cause, wholly independent of the color of the fruit? In keeping the record of our experimental vineyard, the subject of the relative hardiness of varieties has received special attention. These have been studied according to their specific botanical relations, which afford the only reliable basis for grouping. One hundred varieties, nearly all of which have a record of five

SPECIFIC CLASSIFICATION.	No. of Variety	Black.	Red.	White.	Total.		
		Hardy.	Tender.	Hardy.	Tender.	Hardy.	Tender.
CLASS I.							
Vitis Labrusca	27	12	5	1	7	2	24
CLASS II.							
V. Labrusca x V. Vinifera (?)	13	1	2	7	1	2	3
CLASS III.							
V. Labrusca x V. Vinifera	25	10	8	—	7	—	25
CLASS IV.							
Vitis riparia	3	3	—	—	—	—	3
CLASS V.							
V. riparia x V. Labrusca (?)	11	2	1	—	7	1	10
CLASS VI.							
Riparia-Labrusca x Labrusca-Vinifera	4	1	2	—	1	—	4
CLASS VII.							
V. riparia x V. Vinifera	9	1	3	—	1	3	2
CLASS VIII.							
Vitis Aestivalis	6	5	—	—	1	—	5
CLASS IX.							
V. Aestivalis x V. Labrusca	2	—	—	—	1	1	1
Totals	100	19	19	10	17	19	16
							52

years in the grounds, are grouped in the accompanying table according to their specific relations, into

nine classes while each class is divided into black, red, and white, and each of these heads into hardy and tender, only those being classed as hardy that have stood without protection our most severe winters uninjured.—

Class I., *Vitis Labrusca*, comprises the Concord, with a number of its seedlings and other sorts of pure blood of that species, black, red, and white; the only three tender in this class chance to be white.

Class II. comprises Catawba, Delaware, and Isabella, with their seedlings and crosses. The origin of the three parent varieties is involved in obscurity, but judged by their characters and the way in which their seedlings develop, careful students of the grapevine believe them to be of *Vitis Labrusca* blood with an accidental cross of *Vitis Vinifera*, the cultivated grape of Europe. We find this class running largely to red sorts, and the three hardy out of the list of thirteen comprise two red and one white varieties, while the one black variety in the class, Isabella, is as tender as any.

In Class III., I have placed those sorts of known parentage which are from seed of various *Vitis Labrusca* varieties, fertilized with pollen from *Vitis Vinifera*. Rogers' Hybrids were the earliest introductions of this class, of which Agawam, Goethe, Herbert, Lindley, and Wilder are perhaps the best known. Such of the more recent sorts, as Eldorado, Lady Washington, Highland, Triumph, Black Eagle, and Mills, with others not so well known, swell this class in our list to twenty-five varieties, of which ten are black grapes, eight red, and seven white. All of these are tender.

Class IV., *Vitis riparia*, our most common wild grape in Kansas, includes Clinton, Bacchus, and Marion, three entirely hardy black varieties.

Class V. includes varieties either known or supposed to be hybrids of *Vitis riparia* with *Vitis Labrusca*. The Taylor furnishes the basis for this class, with such of its seedlings as Elvira, Amber, Rommel's Etta, and Montefiore, eight white and one black variety, all being hardy, while a single white sort, Empire State, said to be a hybrid of Hartford and Clinton, is tender.

In Class VI., I have placed four of Mr. Munson's new varieties, Beagle, President Lyon, Rommel, and Ruby, raised from seed of Elvira, fertilized respectively with Black Eagle, Lindley, Triumph, and Brighton. This class includes one black, two red, and one white variety, all hardy.

In Class VII., are grouped varieties derived from such hardy parents as Clinton and Marion in Class IV., fertilized with pollen of *Vitis Vinifera* sorts. Here, as in the case of Class III., we find seedlings from varieties hardy of themselves rendered tender as a rule by the infusion of a half of this foreign blood. Of the nine sorts, only two are hardy, one of these being a black and one a white fruit.

I include in Class VIII., six varieties derived from *Vitis Aestivalis*, a wild species having a central and southern range. We are not surprised to find five of these, though black in color, too tender to endure our winters perfectly. The one hardy variety in this class is a white one.

Hybridizing *Vitis Aestivalis* with *Vitis Labrusca* has given us the two varieties which I Class IX. Both are white, one hardy place in and one tender.

By studying the totals in the accompanying table, we find that fifty-two varieties out of the one hundred are ranked as tender, of which thirty-five, in Classes III. and VII., and probably ten more in Class II., owe their tenderness to the in-

fusion of *Vitis Vinifera* blood. Adding the six more derived from *Vitis Æstivalis*, we have forty-eight of the fifty-two tender sorts belonging to two species.

In other words, over 87 per cent of the varieties in these classes are tender, while only 8.8 per cent of the varieties of *Labrusca* or *riparia* blood are tender.

If any value could be placed on color as an indication, this list would show the white sorts to be the most hardy, but it will be readily seen that an endless variation of ratios of hardiness to color may be obtained as the blood of hardy or tender species chances to predominate in the selection made.

CIVILIZATION.

BY ALICE RUPP.

CIVILIZATION describes that condition of life in which men abandon the wild pursuits of savages and barbarians, of hunters, and even shepherds, and cultivate the ground, build houses and towns, establish organized governments, and apply themselves to the arts which tend to increase the welfare and comforts of their condition. To this the fine arts, science, literature, and philosophy are in due time added, and form parts of the higher state of civilization.

The source of civilization may be said to be in man's faculty of acquiring knowledge about himself, and putting this knowledge into use to supply his wants, as well as in transmitting it to future generations. The great school from which the idea of civilization seems to emanate was the sea-shore. Those nations who spent much of their time on the waters not only increased and widened their geographical knowledge, but at the same time sowed the seeds from which higher ideas of right and wrong were to be eventually harvested; for it seems that power which the sea requires in a sailor rapidly develops the man in him, and the change of shores and population clears his head of many crude ideas. He is no longer a nomad tending his flocks and herds, and subsisting on the products which kind Nature provides for her ignorant children. The cave has given way to the frame or stone house; and who for a moment would stop to question the tranquil and refining influence it exercises on its builders—the crude ways of planting and reaping have been swept into oblivion by the higher ideas of agriculture. The growth of this art alone has been a prime factor in tracing the progress of civilization. To illustrate the great importance placed on this, the Scandinavian fore-fathers have bequeathed us a queer legend which I have somewhere read: "There was once a giantess who had a daughter, and the child saw a husbandman plowing the field. Then she ran out and picked him up with her finger and thumb, and put him and his plow and his oxen into her apron, and carried them to her mother, and said, 'Mother, what sort of a beetle is this I found wriggling in the sand?' But the mother said, 'Put it away, my child; we must be gone out of this land, for these people will dwell in it.'"

The advancement of woman from a "mere beast of burden and slave" to her lord and master, to a plane where she stands on an equality with man, religiously, politically, socially, and educationally, is another great stride in the progress of civilization. A noted writer, when recently asked to give a definition of civilization, said, "Poverty and industry, with a healthy mind, read very easily the laws of humanity, and love them: place the sexes in right relations of mutual respect, and a severe morality gives that essential charm to woman which educates all that is delicate, poetic, and self-sacrificing, breeds courtesy and learning, conversation and wit, in her rough mate;" so that I have thought it a sufficient defi-

nition of civilization to say, it is the influence of good women.

Another measure of culture is the diffusion of knowledge. There was a time when literature was such a luxury it could be indulged in by only the most wealthy; but now, thanks to the cheap press and the free circulating libraries, the best of all that is good is scattered broadcast throughout the land, breaking down the old barriers of "caste," and bringing the university to every poor man's door. Our very newspapers contain such tit-bits of science, of thought, and of poetry, that we reluctantly consign one to the waste basket till we have carefully look it over.

Electricity, steam, machinery, and the thousand and one other recent inventions and discoveries, have each added its quota to the advancement and refinement of man.

But we pause and ask, "What is the foundation of this great and glorious structure which is so firmly fashioned that ages, instead of crumbling, seem only to strengthen and perpetuate?" The answer is, Christianity. It is Christianity that introduced into civilization the principles of truth and morality. It raised man to a plane where he might not only know himself, but he realized his relations to his God and to his brother man. And today what heart does not beat high with the thought that the time is soon coming when the clouds of barbarism shall be rolled away from the most remote corners of the earth, and the silver lining, Christianity, dawn; its weapons the shafts of light, wearing the breast plate of faith and love, and for a helmet the hope of salvation. Armed thus, how can ignorance and idolatry withstand the siege?

THE STOUT MANUAL TRAINING SCHOOL.

BY GERTRUDE COBURN, '91.

THE building, a three-story frame, with spacious basement and attic, is in the same square occupied by the High School building, in the very business and geographical center of the city. A tower 117 feet high contains the town clock with its four eight-foot dials, illuminated by electricity, and the large sweet-toned bell that strikes the hours. With its equipment (not completed) as it now stands, the building has cost Mr. Stout about \$50,000, and, far from being weary in well doing, he has various new projects in his mind, soon to be carried out.

The whole building is so well lighted by windows that one visitor pronounced it lighter than "out-doors," and several hundred electric lights at night rival the day-light. The Huyett and Smith hot-blast system of heating and ventilating seems to do its work perfectly. The plumbing is extensive, and satisfactory provision is made for water, gas, and drainage wherever needed, while each floor is equipped with hose already for use in case of fire. The rooms are large and high; the halls wide, and staircases easy; all walls are finished in hard white, with mouldings and wainscoting, and the wood-work in hard oil. A bridge will connect the second floor with the High School rooms, so that the girls will have no stairs to climb. A dumb waiter, or freight elevator (for its capacity is 250 pounds), runs from basement to attic. Of the basement and first-floor I can hardly speak intelligently, but the former contains the boiler, heating apparatus, and the beautiful little engine; while the first floor is devoted to the same kinds of mechanical work that are done at the College. The rooms for wood-work, iron work, and drawing are well arranged and almost perfectly equipped with the best material, machinery, and tools for all such work. No iron-work is being done this year, but everything is ready for it when the teaching force is enlarged.

The girls' work is on the second floor, and my domain includes the cooking, dining, sewing, and recitation rooms—the dining room to answer when needed for a home nursing department. All recitation rooms are furnished with the finest chairs, with adjustable tablet arms, and teachers' table and chairs to correspond. In the sewing room, the cheeriest in the building, is the large cutting table, much like Mrs. Winchip's, containing the supplies, tools, etc.; a circular reading table for the magazines; lockers and drawers for pupils' work, and ample wardrobe room, behind plate glass sliding doors, besides the curtained fitting room. The movable furniture includes the machines, chairs, forms, folding tables, secretary, etc. The dining room will contain tables, sideboard, and chairs.

The large kitchen has abundant shelf room in pantry, china closet, supply room, and exhibit cases—all inclosed with plate glass. There are two large and one small porcelain sinks, with grease traps below, to insure cleanliness; a similar instructor's table, apron lockers, cases, drawers, etc. The two large ranges and five work tables, accommodating four girls each, have abundant space and conveniently arranged, and there are all the utensils and conveniences that are ever needed. I am proud of my kitchen. It has plenty of room, plenty of shelves and hooks and drawers, plenty of furniture, plenty of water and air and light and heat and materials, and there are thirty-five bright, enthusiastic girls to use it this term.

I had the privilege of planning my rooms and their furniture, and every suggestion was carried out without question or abbreviation. So the rooms are as I asked to have them, and although I can criticise them in a few minor points, I am well pleased, and know of nothing better for our purposes.

The room marked "General Office" is to be devoted to a scientific and technical library. The mechanical drawing room would do even Prof. Walters' heart good, it is so large and light, so well provided with adjustable individual tables and lockers, and fine tools.

On the third floor, Supt. Hoyt has been in his element, overseeing the smallest details of the provisions for science work, and arranging model laboratories, putting in the stationary apparatus as the plumbing was done. The art room is furnished with easles, cases, casts, models, etc. Although there have been three teachers here since I came, two of them artists, the department is now without an instructor for the remainder of the year.

There are large rooms in attic and basement, which may some time be utilized for laundry work, physical culture, etc., while the old building will be used for a kindergarten, if the public cares for it.

Continuation of this would take your attention to little purpose, for I can give only a vague idea of the school and its facilities for usefulness.

MENOMONIE, WISCONSIN.

There is money in pleasant surroundings on the farm. Do you want to sell your land? It will bring a better price if the house and grounds are neat. A neat, sodded lawn about the house, comfortable walks from house to barn and road, some flowers and shrubs, an air of thrift,—all these things attract, while their absence repels. If the farm is not for sale, still it pays to have these surroundings. Every one on the place will be more careful because of them, will work better for the cheerfulness they impart. It will pay in all these ways, and it will pay more yet in making all who live in such a home more thoughtful, in giving them higher ideals of life, in raising them above the mere dead level of bare existence. Yes, indeed, it pays,—pays in dollars and cents, and pays in self-respect and enjoyment to make the farm home beautiful.—*Western Farmer and Stockman.*

CALENDAR.

1892-93.

Fall Term—September 15th to December 23rd.
 Winter Term—January 9th to March 31st.
 Spring Term—April 3rd to June 14th.
 June 14th, Commencement.
 1893-94.
 Fall Term—September 14th to December 22nd.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds *at par*. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address, until July 1st, T. P. Moore, Loan Commissioner, Holton, Kan.

LOCAL MATTERS.

Capt. Smith and wife attended Chapel exercises Friday.

Sadie McCormick, of Zeandale, visited her friend, Sadie Stingley, Friday and Saturday.

Prof. Failyer spends several days in the vicinity of Great Bend in the interest of the sugar-beet.

The Library has received thirty volumes of public documents from Congressman John Davis.

Mrs. Kedzie "remembered" the Ionian girls in a beautiful lot of tea roses from a Chicago greenhouse.

Mr. and Mrs. M. R. Mudge, of Eskridge, visited their daughter, Eusebia, in Fourth-year classes, the latter part of the week.

Rev. Baker, of Marysville, Kans., was a visitor at the College on Thursday, with his niece, who is spending some months in Manhattan.

The Yeoman brothers have been entertaining Mr. H. A. Albrecht, Vice-President of Central School Supply house of Chicago, this week.

George Heinns, of Topeka, visited College the last of the week. This evening a reception is given him by Olive Wilson, at Prof. Willard's.

The College has enlarged for the State Normal School Exhibit at the World's Columbian Exposition, twenty-eight views of the various rooms in the building.

Mr. W. R. McFadden, an expert taxidermist from Denver, Colorado, is at the College mounting the skins of elk, deer, and other mammals which have been collected from time to time.

Mrs. Elizabeth W. Champney (the Miss Lizzie Williams of early days at the College) has a humorous Irish story in the May number of *Romance*. The story first appeared in the *Home Maker* magazine.—*Manhattan Republic*.

Mr. S. M. Fox has presented the College Museum with a very fine skin of a duck-mole (*Ornithorhynchus anatinus*). This animal is considered by zoologists to be the lowest of mammals, a native of Australia. The skin will be mounted by Mr. McFadden, and will prove a valuable addition to our Museum.

The Farm Department yesterday shipped to Swift & Co., the Kansas City packers, the twenty head of grade cattle which have been fed experimentally for several months. The packers will keep a full record of the various qualities of the animals as killed, which will be published in a bulletin soon to be issued by the Department.

The usual hour of public exercises on Friday afternoon was filled by orations from a division of the Fourth-year Class: "Can Strikes be Justified?" C. J. Peterson; "Home," Edith McDowell; "Fallibility of our Beliefs," J. A. Rokes; "Uncertainty of Law," F. R. Smith; "Cost of Fame," Eusebia Mudge; "Two National Dangers," G. W. Smith; "Labor Union Organizations," J. B. Thoburn.

The group of evergreens just south of the President's house, which, by a liberal application of that effective insect destroyer, Bordeaux mixture, were in an hour's time changed from plain, every-day red cedars to a beautiful blue variety, were so artistically colored as to deceive even those who are supposed to take more interest in horticultural matters than does a professor who, in admiring them, wondered why their beauty had hitherto escaped his eye!

The eastern papers are saying a great many good things—all deserved—about H. M. Cottrell, '84. The latest is from the New York *Tribune*, which, in its full-page illustrated article on "Ellerslie" farm, has this paragraph: "An interesting fact regarding the management is that it is vested in a

college man, H. M. Cottrell, a graduate of the Kansas State Agricultural College. He is the Superintendent, and Mr. Morton holds him responsible for everything done about the place. He is a young man of unusual ability, and thoroughly proficient in the science of the soil. He was born on the plains, and led a cowboy's life before going to college. For three years after his graduation he studied agricultural chemistry under Professor E. M. Shelton, and when he had completed this post-graduate course he was put in charge of the field and feeding experiments of the Kansas Experiment Station. He had under his charge almost every variety of beef and dairy cattle—Jerseys, Holsteins, Shorthorns, Herefords, Angus, Galloways, and the rest. His success there attracted attention, and Mr. Morton, who is nothing if not progressive, decided to see how the young man could apply his scientific knowledge to everyday requirements. Accordingly he hired him. That was in October, 1891, about a year and a half ago. The marvelous strides that the Ellerslie stock farm has made since then would seem to indicate that no mistake was made in the choice of the young scientist, whose experiments are all along the lines of profit and actual usefulness."

THE IONIAN EXHIBITION.

Although the weather was not very favorable for a large attendance, Friday evening, April 28th, found the Chapel too small to seat the crowd that gathered to witness the Fourth Annual Exhibition of the Ionian Literary Society. The stage was handsomely decorated with flowers from the green-house, bespeaking the tasteful handiwork of woman, and portraying an innate refinement and love of the beautiful with which our Ionian girls are so richly endowed.

At eight o'clock prompt the programme was opened by an instrumental duet, executed by Ione Dewey and Olive M. Wilson, after which President Fairchild offered prayer.

A vocal duet, entitled "Cheerfulness," by Mary E. Lyman and Lorena M. Helder, was heartily encored by the audience.

The address by Laura G. Day, subject, "The Threshold of Life," was rendered in an earnest, attractive manner. In it, Miss Day pointed out the duties in the care of government and state soon to devolve upon the youth of this generation, and showed the spirit of education in preparing them for this great work. Miss Day is to be highly complimented for her mastership of the subject and the able manner in which it was delivered.

A quartette consisting of Misses Helder, Marie Haulenbeck, Stingley, and Dewey, sang a selection entitled "The Rivulet," for which the audience showed their great appreciation by calling them back. The encore proved to be an original song pointing out some of the hardships of a senior and a junior.

The discussion on the question, "Who is to blame, Mistress or Maid?"—affirmative, Elsie E. Crump; negative, Marie Haulenbeck—was handled in a manner which showed that the debating qualities of the Ionians were above the average.

The "Spanish Gypsies," in costume, was a very attractive feature in the programme.

The Society paper, "The Oracle," edited by Lorena M. Helder, showed how well woman can set her thoughts to rhyme. Miss Helder did credit to herself and the Society, and read in a clear and audible voice.

A violin duet, by Hilda G. S. Walters and Elsie E. Crump, was executed with exactness and much skill.

The oration, "From Dawn to Twilight," by Kate H. Pierce, was a recapitulation of the life, habits, and conveniences of the dawning of the 19th century, down to the twilight. It was clearly and distinctly delivered, in a graceful manner, and showed careful preparation and thought.

A vocal trio, "Down Among the Lilies," by Misses Haulenbeck, Helder, and Dewey, was heartily cheered.

The closing oration, entitled "Six O'clock," was delivered by Mary E. Lyman. Miss Lyman held the attention of her audience, and being an excellent speaker, her production was highly appreciated.

A song closed the programme, after which

Miss Mudge, President of the Society, thanked the audience for their attendance and appreciation of the programme, and hoped they would have the pleasure of attending many more Ionian Annals.

F. R. S.

GRADUATES AND STUDENTS.

Dr. H. S. Willard, '89, visited College Thursday.

Pearl Dow, '91, visited the College Thursday morning.

C. S. Criswell, Third-year last term, looked in on classmates Friday.

C. A. Sigman, Second-year, takes up studies again after a serious illness.

Mayme Stingley, Third-year in 1888-9, attended the exercises Friday afternoon.

C. E. Freeman, '88, is constructing a dynamo to be used in the Physics Department.

G. W. Wildin, '92, of Topeka, came down to attend the Ionian annual Friday evening.

Bertha Winchip, '91, visited her friend Madeline Milner, '91, at Topeka the past week.

Myrtle M. Harner, Second-year last Fall, was among the visitors at the Ionian Exhibition.

Gertie Baker, a former student, came up from Eskridge Wednesday to attend the Ionian Exhibition.

Grace Wells, First-year in 1890-1, closed her term of teaching in the Allingham district Friday last.

Myrtle Harner, Second-year last Fall Term, visited her sister Ivy, Fourth-year, the last of the week.

Mrs. Belle Selby-Curtiss, '82, and her sister-in-law, Miss Curtiss, visited College several times this week.

J. R. Eichar, First-year, was at home in Topeka all of last week on account of sickness in the family.

Ellen Halstead, Second-year last term, made her friend, Belle Frisbie, Third-year, a visit Friday and Saturday.

Mrs. Kate Oldham-Sisson visited her friend Susie Hail, Fourth-year, and attended the Exhibition Friday evening.

P. S. Creager, '91, succeeds his classmate, F. A. Waugh, as editorial writer on the *Field and Farm* of Denver, Col.

H. G. Gilkerson, in second and third year studies last year, is taking a course in engineering at the Michigan University.

Mary Maas, First-year in 1891-2, visited her sister Dora, First-year, and attended the Ionian Exhibition Friday evening.

R. J. Brock, '91, makes rapid progress in his profession, and is chosen City Attorney for Manhattan for the ensuing year.

Mrs. Ava Hamill-Tillottson, '92, writes from her home, 610 Park Street, Salina, of progress in her post-graduate studies.

G. W. Smith, First-year in 1891-2, writes from Ann Arbor, Mich., where he is pursuing a law course in Michigan University.

B. F. S. Royer, Second-year, returned to College Monday, after an absence of two weeks on account of the death of a sister at Sterling.

Word comes from Utah of the arrival of a son in the home of A. A. Mills, '89, and Pamelia Hoyt-Mills, Second-year in 1891-2.

C. W. McCord, Second-year in 1890-1, finished a successful term of school near Riley on Friday, and was a visitor at College yesterday.

J. H. Persinger, Second-year in 1891-2, visits with College friends this week. Mr. Persinger is engaged in farming in Marion County.

H. B. Gilstrap, '91, editor of the *Chandler News*, of Chandler, Oklahoma, is visiting with friends in the city, and attended the Ionian annual.

Phoebe Turner, Third-year in 1891-2, came Wednesday to attend the Ionian Annual Friday evening. She will return to her home Monday.

E. J. Abell, Fourth-year, and Florence Quantic, First-year in 1891-2, were married at the residence of the bride's father, near Keats, on April

25th, Rev. Allen officiating. They left Wednesday for their future home, Smith Center. The Fourth-year Class tendered congratulations and hopes of a happy and useful life.

Phoebe McCormick, Second-year in 1890-1, visited Kate Stingley, student in 1889-90, and was in attendance at the Ionian Exhibition in the evening.

Mayme Houghton, '91, and Jessie Stearns, Third-year in 1891-2, the Randolph teachers, found pleasure in the Ionian exhibition last evening.

E. C. Pfeutze, '90, is re-elected Superintendent of Waterworks by the Manhattan City Council, who recognize his efficient services during the past year.

Joseph Thoburn, Fourth-year, returned to College Tuesday after an absence of ten days occasioned by the sickness and death of his mother, at Peabody.

Gertrude Coburn, '91, instructor in household economy in the Stout Manual Training School at Menomonie, Wis., writes that her school closes too late to allow her to attend Commencement exercises.

Ben Skinner ['91] is certainly entitled to great praise for his unceasing efforts in making our school one of the very best in Brown county, and the interest he has taken in beautifying the school yard. On Arbor Day he, with the school children, set out nearly 200 trees in the yard and fenced the same.—*Fairview Enterprise*.

Ottawa is to have a new veterinary surgeon. Dr. Linscott, a graduate of the State Agricultural College ['91] and of the Toronto Veterinary College, has decided to locate in our city. He is a son of S. S. Linscott, Holton's leading banker, whose thoroughbreds won so many of the races last year. Dr. Linscott is a bright young man, and understands his business thoroughly. He will moreover be a valuable addition to our younger society. For the present his headquarters will be at Becker's.—*Ottawa Journal*.

COLLEGE ORGANIZATIONS.

Student Editors.—F. R. Smith, Ivy Harner, Eusebia Mudge.

Webster Society.—President, C. F. Pfeutze; Vice-President, E. A. Donaven; Recording Secretary, H. G. Pope; Corresponding Secretary, F. R. Jolly; Treasurer, S. A. McDowell; Critic, G. W. Smith; Marshall, F. E. Uhl; Board of Directors, E. M. S. Curtis, J. Stingley, J. U. Secrest, E. H. Freeman, and S. H. Creager. Meets on Saturday evening at eight o'clock. Admits to membership gentlemen only.

Ionian Society.—President, Eusebia Mudge; Vice President, Blanche Hayes; Recording Secretary, Miriam Swingle; Corresponding Secretary, Bertha J. Spohr; Marshal, Elva Hoyt; Treasurer, Ethel Patten; Critic, Nora Newell. Meets on Friday afternoon, at 2:30 o'clock. Admits to membership ladies only.

Hamilton Society.—President, T. E. Lyon; Vice President, I. Jones; Recording Secretary, O. A. Otten; Corresponding Secretary, R. J. Barnett; Treasurer, C. D. Adams; Critic, H. I. Floyd; Marshal, R. S. Kellogg; Board of Directors, W. E. Smith, E. L. Frowe, W. E. Hardy, R. K. Farrar, and C. D. Lessley. Meets on Saturday evenings at eight o'clock. Admits to membership gentlemen only.

Alpha Beta Society.—President, Ivy F. Harner; Vice President, Geo. L. Christensen; Recording Secretary, C. C. Smith; Corresponding Secretary, W. Harling; Treasurer, E. J. Hartzler; Critic, W. O. Lyon; Marshal, Fanny Parkinson; Board of Directors, C. H. Thompson, J. E. Thackrey, W. O. Lyon, Stella Kimball, Sadie Moore, C. M. Morgan, Onie Hulett. Meets Friday afternoon at 2:30 o'clock. Admits to membership both ladies and gentlemen.

April 21.

President Mudge called the Ionian Society to order at half past two. The hall was well filled with visitors and members. After roll-call, immediate attention was given to the program, which was opened by an original poem, written by Lillie Dial. She being unable to be present, it was read by Miss Finley. Misses Wilson and Walters entertained the Society with an instrumental duet. The Oracle, edited by Nora Newell, was then presented to the Society. Motto, "There is no excellence without great labor." A vocal duet, "Larboard Watch," was rendered by Louise and Bertha Spohr. Subjects for extemporaneous speaking were then given out to several members of the Society by the President. Miss James, being called upon, told us some interesting facts about the Indian Territory. "The Farmer Girl," an interesting subject, was discussed by Laura McKeen. Miss Henry told, in an interesting manner, about "Her Experience in Society." After an instrumental solo by Miss Hoyt, the Society proceeded to unfinished business. This was followed by new business conducted in a very enthusiastic manner. The Critic's report was followed by general criticisms. For the benefit of visitors who came later, Misses Wilson and Walters were asked to render another instrumental duet, to which they responded. Applause showed appreciation. Adjournment. B. J. S.

April 22nd.

The Hamiltons were called to order promptly at eight o'clock by President Lyon. Roll-call. G. G. Boardman led in devotion. After the reading of the minutes of the previous meeting, the order of the program of the evening was taken up. First was a well-delivered declamation by C. M. Brobst, entitled "Earnestness," after which B. M. Brown read an interesting essay showing some of the possible improvements of the next hundred

years due to electricity. C. R. Hutchings next gave an instructive discussion on "The Kansas Exhibit at Chicago." His illustrative drawings deserve especial mention. The debate on the question, "Would it be wise to reject the proposed annexation of Canada?" was argued affirmatively by O. A. Otten and J. Calhoun, they claiming that the subject hinged on the question, Would this be of benefit to all concerned? and that it would not, as not nearly all the Canadians desired to be annexed, to say nothing of the opposition which Great Britain would offer, and the benefit we would receive from the cheapening of lumber could more easily be brought about by putting that article on the free list. They also showed that it was this greed for more territory which had been the ruin of many great nations. J. A. Scheel and F. E. Cheadle, on the negative, ably refuted the arguments on the affirmative, and pointed out the great advantages England would have in a war with us if she held Canada. They also argued that Great Britain would offer no serious objection to this scheme, as it now had more dependencies than it could protect in case of war with another European nation. Judges Farrar, Carnahan, and Frowe decided unanimously in favor of the negative. The Society now took eleven minutes recess. The remainder of the program consisted of a select reading, "Artless Prattle of Childhood," a good edition of the Recorder by E. L. Frowe, news by R. M. Philbrook, and a vocal solo by B. W. Conrad, with guitar accompaniment. The whole session showed earnest work, and passed off with but one interruption—the sudden appearance of a huge body and grinning face in the door of our hall; but it soon vanished without scaring anyone except a few "preps," and all went well again. R. J. B.

April 22nd.

The Websters were called to order by President Pfeutze at eight o'clock. Roll-call showed a good attendance. J. W. Evans led in prayer. The minutes of the previous meeting were read and adopted. There being no candidates for admission, the Society passed directly to the order of debate, but as both speakers on the affirmative were absent, the order was passed for the time being. A declamation, "A Visit to the Blue-ridge Mountains," by E. H. Eggleston, was delivered in good style, and was well received by the Society. E. M. S. Curtis, in an essay entitled, "Practical and General Education," expounded some very good theorems. Next on the program was a reading by A. Dickens, his selection, "A Story from the Pickwick Papers." In the meantime the speakers had arrived and the Society returned to the order of debate, and the question, "Resolved, that the Societies were justified in using their influence against getting Robert Ingersoll for the annual address before the Societies," was argued on the affirmative by G. W. Smith and J. V. Patten, on the negative by E. A. Donaven and F. J. Smith. The principal arguments on the affirmative were that, as Mr. Ingersoll used his influence against Christianity, and as his arguments were very convincing, he would be liable to do harm in creating a spirit of infidelity; also that in procuring him it would look as if the College favored infidelity. The negative, in answering, argued that Ingersoll's love for freedom of thought and action would have no bad effect on any of his audience, and if his lecture was not on religion, it would be interesting and beneficial to all. Decision in favor of the negative. After recess, C. A. Kimball made a short "political speech." Though rather late in the season, it was nevertheless instructive and well gotten up, and had it been made during the last campaign it would have doubtless changed many minds on the question of "free coinage of silver." Messrs. Bailey and Lyon favored the Society with a selection on the mandolin and guitar; B. Dougherty, committee. The news of the week was presented by F. Rummel. Volume sixteen, number two of the Webster Reporter was presented by W. H. Steuart. F. R. J.

April 21st.

The Alpha Betas were called to order soon after Chapel exercises; Pres. Harner in the chair. The program opened with a solo "The Song My Mother used to Sing," by Miss Palmer, Miss Steele accompanying on the organ. Devotion, Miss Hulett, Miss Elsie Waters read the pathetic poem, "Guilty or Not Guilty." The question, "Should the higher educational institutions be under control of the state?" was argued affirmatively by G. L. Christensen seconded by C. W. Longnecker, Sarah Cotterell and J. E. Thackrey argued the negative. After stating the ground covered by higher education, and defining education itself, the affirmative claimed, as the object of education, the development of ability to think and judge for one's self. The State depends on education to form good citizens, hence teachers are necessary, and for these we require higher education. Now, a republic especially cannot trust private institutions with the education of its citizens who are soon to control its affairs. The government has charge of the army and navy, its protectors when opposed by force; how much more should it control the teachers, its protectors from more insidious evils. The clear record of State schools shows the methods there used develop a better character than those which must be followed at other places. As they are run on a larger scale, they can also offer advantages impossible in private schools. The negative thought that dependence on the State for everything was not a likely way to form independent thinkers. Free competition would give us schools equal to any public institutions. If the affirmative were followed, uneducated voters would have charge of the State's educational interests. The result of the plan is illustrated by Dakota's recent experience: even here we almost had to suffer through State control during the recent legislative complications. All that is necessary is to compare the two kinds of institutions in the United States. Eliminate the denominational schools or remove them from State control and a wonderful change for the worse would result. Under State control a vast amount of wealth now in education would be invested in other lines, and people would not feel the same interest in State institutions that they had in schools of their own. In closing the affirmative, Mr. Christensen said that schools would be more likely to make independent thinkers, for the making of good citizens was their object, while denominational and other schools will strive to attain their particular end. A free education is due to all, but these schools cannot give it to students from another denomination. As to wealth being taken out of education, there were many examples of persons giving to State schools. Miss Cotterell emphasized the fact that we value most that which costs us something. Cheap institutions mean cheap plans, and that we cannot afford. Even at that rate the State could not support all institu-

tions that exist at present, to say nothing of the future. The Judges, E. J. Hartsler, A. F. Niemoller, and J. F. Odle, rendered a decision in favor of the affirmative. The Gleaner was presented by C. H. Thompson. A variety of articles, including a thoughtful one on "College Hospitality," and closing with a finely illustrated one on "The House that Jack Built," which filled the hall with laughter, made up the contents of an excellent paper. After recess, a Fourth-year octette—minus one member—rendered an original chorus, "Goodly K. S. A. C." after which extemporaneous speaking was indulged in.

W. H.

WANTED—THOROUGHBRED STEERS.

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Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

THE NEW COLUMBIAN STAMPS. VII.

BY PROF. A. S. HITCHCOCK.

PREVIOUS to the present issue the highest value represented by our postage stamps was ninety cents, the first of which, bearing the portrait of Washington, was issued in 1860. In 1869 this portrait of Washington was replaced by that of Lincoln, and this again, in 1870, by a bust of Perry, which, in various colors, has since been retained. A departure has been made in the new set, there being five values, from one to five dollars. These high values are useful in paying postage on first-class matter to foreign countries. Bonds and securities, which, in our own country are frequently sent by express, are usually sent abroad by mail, and since there is no limit in weight to first-class mail packages, it often requires many dollars to pay the postage.

Mr. E. L. Knostman of this city has kindly loaned me his set of the high values. An engraving on the first is entitled "Isabella pledging her jewels," taken from a picture in Madrid. The visit of St. Angle to Queen Isabella has been mentioned in connection with the five-cent value. The engraving shows the Queen in the foreground exhibiting her jewel case to Luis de Angle and Alonzo de Quintanilla. Beside Isabella is the Marchioness of Moya. The persons in the background are probably attendants.

The next number of the series represents "Columbus in chains, on his arrival at Cadiz, where he had been sent by the usurping Bobadilla. The popular indignation was so greatly aroused by the piteous spectacle that Ferdinand, probably reluctantly, and Isabella, just as probably with sympathetic eagerness, ordered his chains removed and invited him to court at Grenada, where they treated him with great distinction. He was there received by the Sovereigns as shown on the three-dollar value. It will be observed that Columbus is seated in the presence of Ferdinand and Isabella, a rare honor in those times.

On the four-dollar value are the portraits of Isabella and Columbus, while on the last and highest of the series, the five-dollar value, is a profile of the latter, "on the right of which is the figure of America, represented by a female Indian with a crown of feathers, and on the left, a figure of Liberty, both figures being in a sitting posture."

It is interesting to compare this series with former issues. Except that of 1869, our postage stamps of the general issue have all been embellished with portraits of prominent statesmen or generals. Franklin and Washington are shown on the first issue in 1874. The second series adds Jefferson. These three, showing various views, were all that appeared till 1863, when the head of Jackson was placed upon the first two-cent value. In 1866, a fifteen-cent stamp was issued bearing a portrait of Lincoln. In 1869, an entirely new series was engraved which differed from all previous, in size, shape, and subject matter. Three of them bear portraits—Franklin, Washington, and Lincoln—while the remainder are ornamented by various handsomely engraved views, a post horse and rider, a locomotive, a shield and eagle, an ocean steamship, the landing of Columbus, and the signing of the Declaration of Independence. This issue was short lived, and in 1870 we returned to portraits. We find all those represented who had previously been awarded this honor, and, in addition, Stanton, Clay, Webster, Scott, Hamilton, and Perry. Taylor was added in 1875, and replaced in 1887 by Garfield. The series of 1890, the one still in use, though partially displaced by the Columbian stamps, gives the post of honor to Franklin, Washington, Jackson,

Lincoln, Grant, Garfield, Webster, Clay, Hamilton, and Perry.

It will be observed that the position of greatest dignity is on the stamp most in use. The one-cent value of all issues bears the portrait of Franklin. While the postage on an ordinary letter was three cents, all the stamps of this value except the 1869 issue bear the portraits of Washington. When the postage was reduced to two cents, the bust of Jackson on this value was replaced by that of Washington.

THE NEW BUILDING.

BY PROF. J. D. WALTERS.

MANY friends of the Agricultural College, knowing of the appropriation by the last Legislature of \$60,000 for a new building, are asking when, where, and how this building will be erected. In answer, the following may be stated:

The sketches for the building have been completed. Next week they will be transmitted to the State Building Commissioners under whose auspices all State buildings are being erected. This Board will employ an architect to elaborate, detail, and specify the sketches, and the work of construction will then be given in contract. It will necessarily require several weeks to complete these preliminaries, but it is expected that the building will be put under roof before next winter. The plastering and finishing will probably not be done until in the spring, in order to allow the stone work to properly settle and dry, but every room will be finished and furnished by the beginning of the fall term of 1894. The law provides for the expenditure of the appropriation during the fiscal year 1893-94.

The sketches provide for a building in the shape of an angle. The main part is practically three stories high, i. e., two stories and a twelve-foot basement, and measures about 80 by 90 feet. On the main floor this part, or wing, contains a classroom for zoology and entomology, a biological laboratory, a private laboratory for the professor, an office, a museum hall measuring about 40 by 54 feet, and reaching, with its two galleries, to the roof, a reading-room connected with the library, girl's and boy's wardrobes, stairways, etc. The second floor shows the same number of rooms with nearly the same arrangement, and is to be occupied by the Department of Botany. The room corresponding with the reading-room will probably be used as an experiment-station biological laboratory. In the basement are four large rooms, well lighted and ventilated, that will be used as meeting rooms for the different societies and student organizations. This floor can be entered directly from the outside, and the closing of a single door will completely sever it from the floors above. It is expected to make the basement practically fire-proof by using tile floors and making all partitions of solid stone wall.

The library wing contains nearly as much floor space as the other wing, about 4,725 feet. It is located on the west side of the building, and will be only one story in height above the main floor. It will consist mainly of a large hall, measuring 33 by 80 feet, and having a curved ceiling. This hall is to be the stack room. Ultimately there will be two tiers, one above the other, of book stacks providing shelving for over 60,000 volumes, but at present only one tier will be built. North of this hall will be an office for the librarian, and on the south side there will be an annex 10 by 30 feet for a study. A stairway and an elevator will connect the librarian's office with the basement, where the Government reports, manuscripts, duplicate volumes, etc., will ultimately be stored.

It is impossible to speak in a short article of all the details that have been carefully considered. The building will be built of substantial white Manhattan limestone, and will be located about 175 feet southeast of the southeast corner of the Main College Hall. For some years it will be the "sentinel" of the group of buildings on "the hill," but some day the growth of the largest agricultural school in the world will make necessary the erection of still more buildings, and these will probably be located to the south and west of it.

AN OPINION ON DAIRYING.

THE New York *Tribune* of April 17th gives seven columns to a description of "Ellerslie," the dairy farm at Rhinecliff, N. Y., made famous by the prominent position of the owner, Ex-Vice President Morton, the New York banker, and the ability of the Superintendent, Mr. H. M. Cottrell, a member of the Class of '84. After the *Tribune* reporter describes the farm and methods employed, he has to wait half an hour for his train, and uses the time to gain Mr. Cottrell's views on dairy-men and dairying, farmers and farming.

"This is a most interesting place," said the reporter, "but can farmers with small means—by that I mean the great majority of them who are not able to buy blooded stock—adopt the methods you employ here at Ellerslie?"

Mr. Cottrell meditated for a moment, and replied: "It depends on the man. A scrub man needs scrub stock and scrub methods of farming. The very first thing a farmer has to do is to improve himself. Then he can go to work on his cattle and crops. It is the everlasting thinking about the business and the putting the thoughts into practice that make the difference between success and failure in farming.

"Suppose a young man decides to go into dairying. The first question is, what breed shall he take? He finds that Mr. Morton is making a great success with Guernseys. Mr. Wilbur will have nothing but Holsteins, and another breeder Ayrshires. Why? Simply because the peculiar characteristics of the milk of each of these breeds is adapted to the special use made of it by the owner. Mr. Morton sells butter alone. He wants milk with the greatest possible amount of butter and the least amount of casein. Guernsey milk is rich in butter and deficient in casein. It costs money for feed to produce casein, and the less there is in the milk for butter the more profit. Suppose he sold the milk to invalids. He would not keep Guernseys. The butter globules in Guernseys' milk are large and separated easily from the rest of the milk, and in a few hours we have a very rich cream and a very thin skim-milk. The Ayrshire butter globules are small, and do not separate readily. The milk is more in the condition of an emulsion—just the condition demanded by weak stomachs. The young man ought to know this when he selects his breed.

"After the selection of the breed comes feeding. If he makes butter, flavor comes first. He finds certain feeds make rich-flavored butter, some feeds soft butter, others butter that is hard and brittle, and still others hard, waxy butter. If he adopts certain combinations of feed he can make butter too hard to spread; another combination will make it soft and oily. No two markets demand exactly the same quality of butter, and he must study the tastes of his consumers and feed to meet them.

"Besides producing flavor, he must feed to get good yields and make money; he must feed to keep his cows in good health; and he must feed his cows so they will have strong, vigorous calves. If a cow is fed well this year, she will give more milk on account of it next year. How far is it profitable to go in this direction? Suppose the breed and feed are all right; there are the thousand questions that come up in the butter-making,

and every little change makes a loss or profit."

"All this takes thinking, thinking, and the more he knows before thinking the better the ideas will be. We must know what others are doing. Less than a month ago I picked up some information in one of the farm papers that has already saved us \$400; and yet I often meet farmers who say it does not pay them to read.

"It is just the same with other branches of farming as with dairying. Look at the laws of chemistry and biology affecting the production of ensilage. How many questions of physics and chemistry come up in tillage—the mechanical and chemical effects of plowing; the action of freezing in the fall plowing; the effect of cultivation on capillary action, and how to use the knowledge to make money?

"All this requires knowledge to use understandingly. A man without education can train himself to think, and can slowly discover the facts himself; but a good agricultural education is a great help. I think this training can best be secured through some of our agricultural colleges. They not only give a young man the education he wants, but, better, they train him to think, and think in the right way. I have always had charge of men doing farm work, and for the past five years have employed each year 200 men or more. Every year I have had a college student working side by side with ordinary farm workmen, and have invariably found that the students have been my best help. They do more and better work than stronger, uneducated men. We have had several students at Ellerslie from the Kansas Agricultural College, and last year one of our best men was from the agricultural department of Cornell.

"It is the extra pound of milk a cow gives, the extra per cent of butter in the milk, the little bit of extra care in keeping the milk pure and sweet, and the little extra attention in saving all the butter in churning, that gives the better product and the higher prices. Men must think to secure this."

"You believe that it pays any farmer to keep blooded stock?"

"Of course I do. But here comes your train."

PLANS FOR THE SUMMER VACATION.

BY FANNIE CRESS, '94.

DURING the spring term of college, students become tired of study, and look forward with great pleasure to the summer vacation. Many plans are laid for that happy time. Some think with pleasure of going home, and their hearts beat rapidly with even the thought of returning to the little white cottage among the apple trees, where the family will be waiting to meet them. In their mind's eye, they can see the green grass in the front yard, with a few flower beds scattered here and there, and the roses blooming in rich profusion. The rolling prairie around the house is covered with waving grain, and everything betokens good cheer and plenty. But it means hard work to some, and sorrow to others. After a year of severe mental work, it is a relief to the tired mind to lay aside books and come into closer relationship with Nature.

Some of us have plans of visiting friends in other places, and it is difficult now to keep from thinking of the good times we will have either in city or country homes, where everything will be done to add to our comfort. In day dreams, we see visions of parties, picnics, boat-rides, and all the pleasures which go to make a visit perfect. True, there will be rainy days when we must keep indoors, but then, there will be the pleasures in the house, and perhaps we can find an old garret to search for relics.

Still other minds are busy with plans for camping out. Their imaginations point them to a picture of a forest. Walking along the river bank

on a bright summer day, our attention is attracted by the sound of voices, and merry peals of laughter follow each other in rapid succession. A few steps further brings us to a cool, secluded spot where several white tents have been pitched. The outdoor air makes them feel fresh and bright, and the dinner of fish, caught in the stream near by with a few vegetables, cooked over a gipsy fire, tastes ever so much better than if the same things were prepared in the house. Then the evening story-telling in the twilight or by the light of the camp-fire is a wonderful change from study by the light of the student lamp in the boarding-house.

Many lay plans to attend the World's Fair. How many dreams are made of the wonderful things to be seen there. As they read the different reports in the papers of the many objects which are arriving every day, they can scarcely realize the pleasures to be enjoyed there. Innumerable are the times they talk over these things with less fortunate friends, and promise to tell all about it on returning home. Besides the Fair itself, there will be many other sights worth seeing. The tall buildings will especially attract attention. They look so odd in contrast with the small ones to which we are all accustomed.

In all these bright day dreams, no one thinks of the days of sadness or sorrow which may come. Hope leads us to think that all the days will be happy ones, and it will be time enough to think of disappointment when it comes.

FARM NOTES FROM VARIOUS SOURCES.

As a rule the average farmer is very slow to recognize merit in anybody who belongs to the farming class.—*Our Grange Homes*.

A really fine saddle horse is hard to find, and such are constantly coming into greater demand. There is opportunity for breeders to develop a paying specialty in this line.—*Farm Life*.

Anything that adds to the neatness and beauty of the farm and its belongings not only increases the owner's pleasure, but fosters refinement and real betterment of the community.—*Our Grange Homes*.

It is folly to look towards high prices alone for better future profits. Each one can do something towards cheapening cost of production, and that will bring the same result.—*Prairie Farmer*.

Work is good in itself, as well as for what it brings, but the mind should be engaged in it as well as the body to bring out its full benefits. Work that would be weariesome and depressing becomes actually pleasant when expectation is alive, and a prospect in view of new results or profits or praises.—*Shelah*.

Farmers have no business to attempt breeding trotting horses. It is dangerous business, especially for farmers' sons. Great skill and much capital is required for success in this line, and farmers cannot afford to take the risks. First-class driving horses are always in demand and never in oversupply. Cheap horses were never cheaper than now, but really good ones never brought better prices.—*Our Grange Homes*.

It is as important for our agricultural organizations, experiment stations, and boards of agriculture to constantly direct their efforts towards the promotion of high ideas as to what our live-stock of all kinds should be, as it is to endeavor to experiment with methods of feeding the animals, and the crops that they consume. High quality in the live-stock brought into our markets and onto our farms, is desirable and profitable.—*F. M. Appleton*.

Many a farmer's start has been made sure by the wife being able to sell sufficient butter and eggs to purchase needed supplies while a crop was being grown, and in this way admitting the applying of what this season's crops would sell for towards the payment of a home. But when this has been done, the wife has given them good management, or else she would not have accomplished as much with them as she did.—*Nebraska Farmer*.

CALENDAR.

1892-93.

Fall Term—September 15th to December 23rd.

Winter Term—January 9th to March 31st.

Spring Term—April 3rd to June 14th.

June 14th, Commencement.

1893-94.

Fall Term—September 14th to December 22nd.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address, until July 1st, T. P. Moore, Loan Commissioner, Holton, Kan.

LOCAL MATTERS.

Commencement will be here in six weeks.

Mr. Eyster spent a day with his daughter in College this week.

The College Cadets will take part in the Decoration Day exercises.

Mr. A. A. Cottrell, of Wabaunsee, visited his daughters on Saturday and Sunday.

Miss Lena Vance, of Nelsonville, Ind., guest of Mary Pritner, was a visitor on Monday.

The museum has received a specimen of Bonaparte's gull, donated by Mr. Chas. Rehfeld.

Mrs. Geo. F. Dewey, accompanied by Mrs. Moore, was a visitor to the public exercises on Friday.

Mrs. Agnes Fairchild-Kirshner, of Kansas City, is visiting her parents and the family of Professor White.

Mid-term examination passed off quietly, and showed not more than an average number of weak students.

F. M. Philbrook, accompanied by two daughters, visited his daughter and son in First-year classes on Tuesday.

Senator Senn, of Enterprise, Dickinson County, visited with his daughter, Marie, Post-graduate student, over Sunday.

Prof. Olin delivered his lecture on "What's the Trump?" before the Union Endeavor Society of Lincoln, Kansas, on April 21st.

Mrs. Winchip was called to Chicago on Tuesday to assist Mrs. Kedzie in arrangement of the College Exhibit at the World's Fair.

Prof. Mayo will this summer further investigate the "loco" in the western part of the State. Should any reader of the INDUSTRIALIST have stock suffering from the disease, he is asked to correspond with the Professor.

Pres. and Mrs. Fairchild this week attend a convention of the Congregational Church, at Great Bend. President Fairchild delivered an address before the Schools of that town on Wednesday evening.

The simple announcement that the preparation of the Commencement and the Alumni banquet has been undertaken by the ladies of the Presbyterian Church is sufficient guaranty that both spreads will be all that could be desired.

The backward spring is such as to excite the admiration and envy of the most active of our College athletes; and the slow growth in the vegetable kingdom is compensated for by the knowledge that the chigger season will be a month or six weeks late.

Judge E. D. Stratford, one of the Regents of the State Agricultural College, and ex-member of the Legislature from Butler County, has purchased the Whitewater *Tribune*, and will move it to El Dorado. El Dorado will then have two Populist and two Republican papers.—*Topeka Capital*.

One of the most enjoyable events which has occurred to the Fourth-year Class this year took place last Monday evening at the residence of Prof. J. T. Willard. Each Fourth-year girl had received an invitation from Miss Gardiner to meet the other girls of the Class on the evening of May the first. At the appointed time all were there except one who was out of town. The time was passing pleasantly with music and conversation, when the sound of stringed instruments was heard. After the music had stopped, Miss Gardiner stepped to the door and invited the serenaders in. Very much to the surprise of the young ladies, the young gentlemen of the Class

walked into the room, each bearing a May basket for some one of the girls. The May baskets were soon opened, and inside was found a dainty lunch, consisting of sandwiches, cake, salted peanuts, and oranges. Ice cream and cake were afterward served. The rest of the evening until a late hour was spent in merry making, conversation, etc. When it at last came time to goodnight, the Fourth-years decided that their host's surprise party was the prettiest idea and the best carried out of anything they had participated in for a long time.

The Fifth Division of the Third-year Class entertained the students and visitors in Chapel Friday afternoon in discussions as follows: "Getting a Farm," H. W. Moore; "The Phonograph, and its Use in the Musical World," Lorena Helder; "Mutual Dependence," J. F. Odle; "Silk Culture in the United States," C. R. Pierson; "What Shall We do with Them?" Sadie Moore; "A Great Discoverer of Little Things," V. O. Sandt; "A Battle without Bloodshed," Ida Pape; "Some of the Errors Regarding the Brain," S. R. Vincent.

GRADUATES AND STUDENTS.

R. J. Brock, '91, City Attorney, was a visitor Friday.

Alice Quintard, Second-year, was called home Monday by telegram.

W. L. Bradford, student in 1888-9, is Clerk of Oklahoma County, Ok.

G. M. Dick drops out of First-year classes to work on the home farm.

G. B. Norris takes his place in First-year classes after two weeks sickness.

W. A. Cavanaugh, First-year, went to Topeka on Monday to meet his father.

C. F. Caldwell, First-year, was called to his home in Scandia on Monday by business.

L. C. Criner, '92, visits College this week after a year's teaching in McPherson County.

E. P. Kinney, Second-year in 1885-6, is a contracting electrical engineer at Butte, Montana.

George Forsyth, Third-year, has been out of classes for three weeks on account of sickness.

J. W. Mills, last a student in 1891-2, is "holding down" a claim in Lincoln County, Oklahoma.

A. D. Rice, '92, who has been teaching at Parallel in this county, called at the College the first of the week.

Florence Beverly, Second-year in 1889-90, greeted College friends Friday in company with Louise Daly, Fourth-year.

Nora Baxter, Second-year in 1890-1, in company with Florence Living, student last term, was a visitor at the College Friday.

The name of Mary E. Lyman, Fourth-year, was on the programme of the Baptist Y. P. S. C. E. Convention held at Topeka Saturday last.

The Austin (Minn.) *Herald*, in a recent number, has an interesting account of the High School, of which K. C. Davis, '91, is Principal.

C. H. Thompson, Fourth-year, went to Enterprise the first of the week, and was away until Tuesday—his first absence since entering College.

Ione Dewey, Fourth-year, went to Ellsworth to attend the wedding reception of Mr. and Mrs. Ben Fagan, Monday evening. She returned home Tuesday.

Ruth Stokes, '92, returned to College from Garnett, where she had been called a short time ago by the illness and subsequent death of a younger brother.

D. W. Working, '88, editor of the Longmont (Colo.) *Times*, has been appointed Secretary of the Colorado State Board of Agriculture. A good appointment.

J. S. Gould, Third-year in 1887-8, now a student at a Chicago theological institution, will this summer have charge of the Congregational Church at Kinsley.

Alice Horton, First-year in 1891-2, returned Monday from Boston, where she attended the Boston Conservatory of Music. She visited College friends Friday.

Warren Knaus ('82) of the McPherson *Democrat*, has the largest private collection of beetles

in the State. He has 3,500 different species and 12,000 specimens. He values them very highly. He also has a number of very valuable books on this subject.—*Topeka Capital*.

W. E. Thackrey, Third-year in 1888-9, visits relatives and friends at the College this week. Mr. Thackrey is engaged in farming in the Sac and Fox agency, Oklahoma.

Supt. Clothier ('92) has secured the services of Profs. Walters and Olin, of the State Agricultural College, to deliver lectures during the June session of the Institute.—*Alma Signal*.

E. S. Mudge, Third-year in 1891-2, visited friends and relatives in the city from Saturday until Tuesday. He will start for San Marcial, New Mexico, in a day or two to be gone an indefinite length of time.

The announcement of the Alumni Association that Prof. S. W. Williston, '72, will deliver the address before that body will be received with pleasure by all interested. The date fixed is Tuesday evening, June 13th.

James C. Maltby, County Attorney of Ottawa County, and an old College student, died in Minneapolis, last week, of dropsy. He was a prominent citizen of his County, and an able and promising young lawyer.—*Manhattan Republic*.

WANTED—THOROUGHBRED STEERS.

The Experiment Station at the College desires to buy or exchange for Shorthorns and Aberdeen-Angus cows and heifers, TEN THOROUGHBRED YEARLING STEERS, either Shorthorns Herefords, or both. Must be good individuals, and recorded or eligible to record. Also ten common native yearling steers, with but little or no improved blood in them. Address propositions to

PROF. C. C. GEORGESON,
Manhattan, Kansas.

SOY BEANS.

The Farm Department has yet a considerable quantity of soy beans which will be sent free in small quantities to residents of Kansas who will send ten cents for postage, and grow the beans experimentally.

THE WEATHER FOR APRIL.

BY PROF. E. R. NICHOLS.

Temperature.—The mean temperature for April, 1893, was 54.34° , which is 1.12° above normal. The warm period was confined to the first decade, the mean being 61.83° ; the second decade gave a mean of 50.63° , and the third, 50.58° . The warmest April was in 1863, with a mean of 59.43° ; the coolest, 46.76° , in 1874. The maximum temperature was 98° , on the 6th; this maximum was equaled in 1887. The minimum was 26° , on the 15th—a monthly range of 72° . The greatest range for one day was 39° , on the 6th; the least, 4° , on the 30th. The warmest day was the 6th, the mean being 81° ; the coldest, the 14th, the mean being 37° . The mean of the observations at 7 A. M. was 47° ; at 2 P. M. 65.83° ; at 9 P. M. 52.27° . The mean of the maximum was 68.67° ; of the minimum, 41.53° ; the mean of these two being 55.10° . There were light frosts on the mornings of the 10th, 16th, and 23rd.

Barometer.—The mean pressure was 28.72 inches, which is about normal. The maximum pressure was 29.072 inches, at 9 P. M. on the 8th; the minimum 28.040 inches, at 2 P. M. on the 11th.

Relative Humidity.—The relative humidity for the last eighteen days was 87; at 7 A. M., 94; at 2 P. M., 78; and at 9 P. M., 91.

Rainfall.—The total rainfall for the month was 1.28 inches, which is 1.44 inches below the normal, the extremes being 9.12 inches in 1863, and 0.12 inches, in 1860. Rain fell in measurable quantities on the 1st, 17th, 18th, 19th, 23rd, 25th-26th, 28th-30th. A few hail stones fell on the afternoon of the 11th.

Cloudiness.—There were two days entirely cloudy, two five-sixths cloudy, six two-thirds cloudy, three one-half cloudy, two one-third cloudy, two one-sixth cloudy, and thirteen cloudless. The per cent of cloudiness was 34, which is 10 below normal.

Wind.—The wind was from the northwest fourteen times, north and southwest thirteen times each, northeast eleven times, southeast ten times, east eight times, west six times, south

five times, and a calm ten times. High hot winds and dust on the 11th and 12th. Total run of wind for the month 10,172 miles, giving a mean daily velocity of 339.2 miles and a mean hourly velocity of 14.13 miles. Maximum daily velocity of 652, on the 11th. Maximum hourly velocity 45 miles, from 10 to 11 A. M. on the 11th.

The table below gives a comparison with the previous Aprils:—

April.	Number of rains.	Rain in inches.	Percent. Cloudiness.	Pervailing Wind.	Minimum Temperature.	Mean Temperature.	Maximum Temperature.	Mean Barometer.	Maximum Barometer.	Minimum Barometer.
1858	8	4.64	33	NW	51.66	87	30			
1859	7	2.54	33	NW	49.43	90	22			
1860	22	.12	28	NW	57.91	90	30			
1861	1	2.00	34	S	64.18	93	31			
1862	6	3.63	48	N	49.68	78	31			
1863	5	9.12	33	S	59.48	93	39			
1864	5	1.68	60	NW	47.52	79	27			
1865	9	2.93	—	NW	51.06	76	23			
1866										
1867	3	2.44	40	N	49.73	75	31			
1868	7	1.96	60	N	48.25	88	27			
1869	6	2.20	42	SE	48.10	77	22	28.72	29.10	28.15
1870	5	.50	45	SE	52.63	85	19	28.74	29.00	28.40
1871	7	8.00	43	SW	57.07	91	32			
1872	7	2.06	52	SW	56.42	89	30			
1873	9	1.97	57	NW	47.31	91	23			
1874	3	1.40	67	NE	46.76	84	24	28.75	29.14	28.38
1875	7	1.60	58	SE	48.45	82	19	28.67	29.04	28.32
1876	5	7.52	43	SW	58.58	84	26	28.72	29.16	28.36
1877	6	4.08	43	NE	58.08	84	20	28.65	29.10	28.19
1878	5	2.02	51	NW	57.77	85	27	28.50	28.95	27.98
1879	8	3.21	51	NW	55.73	80	18	28.55	28.92	28.19
1880	2	1.08	32	SE	56.79	89	30	28.58	29.02	27.88
1881	6	1.56	57	NW	52.09	82	18	28.58	28.90	28.11
1882	7	8.47	57	NW	56.14	86	32	28.59	28.99	28.14
1883	7	2.36	54	SW	55.58	93	31	28.50	29.02	27.89
1884	12	3.23	40	NE	49.47	85	27	28.55	28.91	27.95
1885	5	4.08	44	NW	53.73	81	28	28.52	28.85	28.17
1886	5	5.26	47	NE	54.51	88	18	28.83	29.26	28.02
1887	7	2.85	33	SW	58.14	98	23	28.78	29.29	27.96
1888	6	1.38	27	E	56.72	93	28	29.10	29.53	28.64
1889	3	1.74	37	—	55.27	92	26	29.04	29.41	28.47
1890	5	1.74	40	SW	56.25	93	26	28.91	29.29	28.38
1891	6	1.86	31	E	56.24	91	21	28.87	29.32	28.44
1892	10	2.91	52	SE	51.69	85	26	28.79	29.27	27.95
1893	7	1.23	34	NW	54.34	98	26	28.72	29.07	28.04
Means	6	2.72	44	NW	53.22	86	26	28.71	29.12	28.16

WIND RECORD.

April.	Total Miles.	Mean Daily.	Maximum Daily.	Minimum Daily.	Mean Hourly.	Maximum Hourly.
1888	6099	250.2	587	77	10.42	37
1889	9577	313.2	710	103	13.30	51
1890	7341	258.3	456	51	10.76	35
1891	11196	373.2	963	134	15.55	49
1892	10172	339.2	652	92	14.13	45
Means	8877	306.8	674	91	12.83	43

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

Hiawatha has voted \$10,000 for a new ward school building.

The graduating class of the State Normal numbers over one hundred members.

The graduating class of Hiawatha High School numbers thirteen. Last January there were eighteen.

Every country school district should have a good literary club and a good public library.—*Ottawa Herald*.

The County Superintendents of Kansas will meet in annual convention in Emporia, May 16th, 17th, and 18th.

The school children of Horton bought trees by circulating a subscription paper, and celebrated Arbor Day in a grand style.

The commencement exercises of the Olathe High School were held April 28th. There were three boy and four girl graduates.

The World's Fair Educational Congress will begin on July 17th. Several Kansas educators have been placed on the programme for papers.

Ottawa is guessing whether the Columbian Exposition will increase or decrease the attendance at the next Chautauqua Assembly at that place.

The plans for the new wing of the State Normal building at Emporia and of the new library building of the State Agricultural College are being prepared by architect Seymour Davis, of Topeka, and those for the new library of the State University at Lawrence, by architect Van Brunt, of Kansas City, Mo.

We call the attention of school officers to the fact that the annual meeting has the right to levy a small tax for a school district library. See laws of 1876, Ch. 122, Art. 8. A number of districts have provided libraries under this act. Others may

wish to do so. It is the intention of the law that this library be a school library. Such books should be selected as are interesting and instructive to children. They should be selected for pupils rather than parents, for the coming generation rather than the present. We build for posterity.

Miss Kate Blunt, who captured the first prize as solo violinist at the State Musical Contest, and Miss Clara Walker, who received many compliments for her artistic playing on the same occasion, are residents of Leavenworth and graduates of the Kansas Conservatory of Music located in that city.

A few weeks ago the INDUSTRIALIST spoke of the need of a history of Kansas for use in the public schools, and is now in position to say that such a book will soon be published. Secretary Adams, of the State Historical Society, has undertaken the difficult task of preparing it, and announces that it will be ready for use early next fall.

The commencement exercises of the State Normal School will open on Saturday evening, June 3rd, with the prize contest in debate and declamation. The programme for the week will include something new every day, ending with the commencement exercises on Thursday. The new assembly room will not be ready, but the noise of the hammer will make the visitors more comfortable, and will undoubtedly add greatly to the zest of all the exercises.—*Normal Quarterly*.

COLLEGE ORGANIZATIONS.

April 29th.

President Pfuetze called the Websters to order at eight o'clock Saturday evening. Roll-call showed a good attendance regardless of the weather. M. F. Hulett led in devotion. After the reading of the minutes of the previous meeting, debate on the question, "That the annexation of Canada would be a benefit to that country," was argued affirmatively by J. M. Williams and A. C. Fulhage. They argued that if Canada was annexed to the United States there would be a tendency to break up and put an end to much of the swindling and corruption found in that country. They also spoke of the condition of her people, and her finances, and compared them with ours, showing that although the two countries were settled practically at the same time, the United States has made unparalleled advancement, and that Canada has fairly begun. E. H. Freeman and A. Dickens, in refuting the arguments of the affirmative, argued that it would be no advantage to Canada to annex her to the United States because she is developing slowly, and will, in time, become a leading nation, and that if she was annexed she would depend more or less on the United States, which would be no honor to her; also, that Canada is as well fixed as were the thirteen original colonies when they broke away from England, and if she would follow their example it would be a great benefit to her. The decision of the Society was in favor of the affirmative. J. W. Evans read an essay on "Criminal Punishment," after which E. G. Gibson delivered a declamation entitled "Popular Independence," which was well received by the Society. R. J. Peck showed his ability as an elocutionist by the manner in which he delivered the pathetic poem "On the Town." After recess, J. B. Dorman continued the exercises with a declamation, "Reigning Fashions." A song, a revised edition of the famous chorus, "On the Kaw," by E. G. Gibson, was by far the most enthusiastically received of any exercise of the evening.

F. R. J.

April 29th.

At the usual time President Lyon called the Hamiltons to order. The Recording Secretary being absent, J. A. Scheel was appointed. In spite of the rain and mud, roll-call showed the presence of something over fifty members. Devotion, R. K. Farrar. Reading and adoption of minutes. Declamation, "The Idle Man." G. G. Boardman. W. E. Hardy's essay on that old subject of contention, "The College Social," showed the question in a new and proper light. It was followed by the debate on the question, "Would it be profitable for students attending this College to go to the Cherokee Strip to get land should it be opened before Commencement?" E. C. Abbott and F. A. Dawley, for the affirmative, claimed that it would be a financial success, as these are fertile lands which will be sure, in a short time, to be worth many times what they would cost now. They also proved by many instances then in the room that it was a benefit to most students to drop out of college at least one year; that they will in that year gain experience which will aid them in doing much better work during the remainder of the course, the more so as many students graduate from this school when too young to enter on life's work. A few of the prints brought forth by J. A. Rokes and F. Yeoman for the negative are, first, students who drop out of College for a time do not, as a rule, come back because the class with whom they are acquainted will be ahead of them, and other matters will have engrossed their attention. Second, there will be thousands of home seekers there waiting to take the claims, and the student's chance would be about as one to a thousand to get a good farm. Third, it is preposterous to think of this land becoming of any great value in less than twenty-five years, it now being dry and unproductive. The decision of the Judges, Pincomb, Farrar, and Holland, was in favor of the negative. Newsman, C. E. Pincomb; select reading, "Shoeing a Broncho." F. Smith. The Society then took ten minutes recess, after which we were much amused by a complete acting out of "The Arkansas Traveler" by C. D. Lesley and C. A. Bailey. They responded to a hearty encore with a well-prepared instrumental duet. The orders of new and unfinished business were quickly passed, and under extemporaneous speaking. Messrs. Wilden and Gilstrap gave the Society some good advice, and spoke words of encouragement, which should be an inspiration to better work in the future. Adjournment.

R. J. B.

THOROUGHBRED CATTLE

FOR SALE

The Farm Department of the College offers to sell some HIGH-BRED ANIMALS, including several

Shorthorn Cows

Shorthorn Heifers

two Shorthorn Bulls

A Fine Young

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An Aberdeen-Angus

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And some Heifers of the same Breed

Intending buyers are cordially invited to come and see them. PRICES WILL BE LOW, to suit the times. For further information concerning them, address

PROF. G. C. GEORGESON,
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FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

R. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc. '75.

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Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. T Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

ANOTHER STEER FEEDING EXPERIMENT.

BY PROF. C. C. GEORGESON.

WE have just completed another steer-feeding experiment at this Station, a brief account of which may prove of interest to our readers. The steers were sold on the 29th of April in Kansas City, and slaughtered at the packing house of Swift & Co. The plan of the experiment was in all essential points like that of last year. Twenty steers were fed, five of them out doors, and the remaining fifteen in doors. Of the indoor steers, one lot of three was fed on balanced ration, another lot of three, which we will call lot No. 2, was fed on corn meal, molasses, and corn fodder. Lot No. 3, consisting originally of four steers, but from which one had to be rejected because of a surgical operation which unfitted him to remain in the experiment, was fed on oil cake and hay exclusively. Lot No. 4 consisted of five steers; these were fed on corn meal and corn fodder in the barn, and lot No. 5, consisting also of five steers, were fed on ear corn and corn fodder in the yard.

It will be noticed that there is a slight deviation from the plan followed last year. We had, in the first place, five lots this year, as against only four lots last year. This necessitated making the lots smaller, and hence, lots one, two, and three consisted of only three steers each. It would undoubtedly have been better if there could have been five steers in each of these lots, but we were unable to accommodate more than fifteen head in the barn.

In the second place, the feeding of lots two and three differs from the plan followed last year. The object was to compare a highly carbonaceous with a highly nitrogenous ration, the two extremes, so to speak, in feeding rations. For this reason lot No. 2 was fed on corn meal and molasses, the amount of molasses being graded from day to day to suit the appetite of the animal, care being taken to preserve a healthy condition of the bowels. As is well known, there is but little nitrogen in molasses, and this substance was therefore chosen as the cheapest non-nitrogenous food that could be procured, and it is moreover not infrequently used in fattening cattle. The nitrogenous ration was secured by feeding oil cake only, as much as the animal would eat, and allowing in addition a ration of tame hay consisting chiefly of orchard grass. The feeding of lots four and five was exactly the same as last year, one (lot four) receiving ear corn and corn fodder in doors, and the others ear corn and corn fodder out doors, the only difference being the question of shelter.

The character of the steers was, on the whole, inferior to the steers that we fed last year. They were grade shorthorns, raised in Missouri, had been dehorned, and said to be three years old last fall. They were bought in Kansas City stockyards late in November. They averaged only 1070 pounds in weight, which is 130 pounds less than the average weight of last year's lot. It also soon became apparent in the progress of the feeding that they were inferior feeders. But for the purposes of comparison with each other in this experiment they have answered the purpose fairly well, since they were reasonably alike in quality.

They arrived at the Station on the 28th of November, and the preliminary feeding was begun at once, but as none of them had ever been tied up it took three weeks before those which were placed in the barn had so far accustomed themselves to the confinement that the experiment could begin, and even then they were at a disadvantage in comparison with the out-door steers, for it was not until the end of six weeks that they had fully surrendered to this enforced confinement.

The method of feeding and handling them was in all respects the same as the plan followed last year. They were fed and watered twice daily, and the feed was weighed out to each steer each time, the amount depending upon his appetite for the previous meal, and whatever feed was left uneaten was weighed back in order that he should not be charged with more than he actually consumed. The water was also weighed to each steer each time, and an account kept of the amount he drank. We thus have all the data as regards feed and water that each animal has consumed during the entire period. The five steers in the out-door lot could not be thus fed individually, as they all ran together. Their corn was weighed out to them morning and evening, and likewise the corn fodder, and what they left uneaten was weighed back before they got the next feed. This lot had free access to water at all times, and we are therefore unable to give details as to the amount consumed.

The experiment began December 20th and closed on the morning of April 28th, thus covering a period of one hundred and twenty-eight days. The results which are briefly set forth in the following table will be of interest to all cattle feeders:

	LOT I.—Feed, Balanced Ration—pounds.	LOT II.—Feed, Corn-meal and Molasses—pounds.	LOT III.—Feed, Oil Cake—pounds.	LOT IV.—Feed, Ear Corn in Barn—pounds.	LOT V.—Feed, Ear Corn in Yard—pounds.
Weight of each lot April 28	4175	3907	3878	6736	7159
Weight of each lot Dec. 20, '92	3248	3246	3207	5367	5781
Gain of each lot in 128 days	927	661	671	1369	1378
Average gain per head	309	220.3	223.6	273.8	275.6
Daily average gain per head	2.41	1.72	1.74	2.14	2.15
Price each lot realized per 100 lbs. in Kansas City stock-yards April 29	5.30	4.75	4.90	5.10	5.15

This table shows that lot No. 1, fed on the balanced ration, made the greatest gain; also that lots 2 and 3 have made equal gains, and that lots 4 and 5, fed on corn in doors and out, are also equal. This confirms the results of last year, which pointed in the same direction. The prices realized by each lot are of interest. They were bought for Swift & Co. by an experienced cattle buyer, and an excellent judge of fat cattle, Mr. W. A. Seely, who had no knowledge whatever of the treatment each lot had received. The lots were placed in separate pens, and he examined one after another, with the result as indicated in the table. The out-door, corn-fed lot he graded five cents higher than the indoor lot, although there was only two pounds difference in the average gains they had made in the 128 days they were under experiment. During the three weeks required to accustom the in-door lot to the confinement, the out-door lot fed in comfort and gained rapidly, while the others fretted and gained but little. Thus, it happened that they were about four hundred pounds heavier at the beginning of the experiment than the in-door lot, as shown in the table, and therefore carried more flesh by this amount on the day of sale. They were slaughtered, as already stated, by Swift & Co., to whom we are greatly indebted for the accomodation they afforded us in procuring detailed weights of the offal and carcass of each steer at no little inconvenience and expense to themselves.

This slaughter test is of value in that it enables us to compare the lots with each other in the details of their make up. We thus have the live

weight of each steer just before slaughter, the weight of the carcass immediately after slaughter, and again after it had been in the cooler seventy-two hours, and also the weight of the fat, blood, head, hide, and of each of the several organs of the body. And after cooling seventy-two hours, the carcasses were cut, and a cut of the rib roast from each photographed, in order to show the difference in the marbling of the meat. In fact, nothing has been left undone throughout the whole experiment which might aid in giving us full data in regard to the effect of these several methods of handling beef cattle.

STATE CERTIFICATES FOR GRADUATES.

BY PRES. GEO. T. FAIRCHILD.

IT is proper to call the attention of teachers among the graduates of the College to the law of 1893 granting them the privilege of claiming a three-year State certificate, and later a life certificate upon special conditions.

The law provides that—

The State Board of Education shall have the power to accept grades given on academic subjects completed in course and passed in regular examination to persons who are graduates of, or may hereafter graduate from, this College in lieu of the examinations on the same subjects required for State certificate.

The Board shall examine all persons whose grades are thus accepted, upon the professional subjects included in the course of study at the State Normal School, viz.: Philosophy of education, history of education, school laws, methods of teaching, school management, and upon such other subjects as the regulations of the Board require upon which they are unable to present grades as required in section three of this act.

To all persons receiving credits and passing examinations as required in the preceding sections, the State Board of Education shall issue the three years certificate provided for by the sections mentioned by the third section of this act, and at the expiration of that time, if the holder of said certificate satisfies the Board that he has taught successfully at least two years out of the three, and has kept himself well informed in the general literature of his profession, said Board shall issue a life certificate in lieu of the first one issued.

All life certificates issued by the State Board of Education or by the Regents of the State Normal School shall be void if the holder of the same shall not be engaged in school work for three consecutive years: *Provided*, that certificates may be renewed at the discretion of the State Board of Education.

Under regulations adopted by the State Board of Education, applications must be made in prescribed form upon blanks furnished by the State Superintendent of Public Instruction, and all grades must be certified by the President of the College. The requirements for certificate are as follows:—

1. *English*.—Spelling, reading, penmanship, composition, and grammar, including the structure of words.

2. *Mathematics*.—Arithmetic, book-keeping, algebra I through quadratic equations, and plane geometry.

3. *Geography*.—Physical and political.

4. *History*.—United States history, general history, and civil government.

5. *Physiology*.

6. *Natural philosophy*.

7. *Botany*.

8. *Zoology*.

9. *Geology*.

10. *Industrial drawing*.

11. *Mental science*.

12. *Professional subjects*.—Philosophy of education, history of education, school law, school management, and methods of instruction.

Must have taught one year.

Must produce satisfactory testimonials from reputable persons in regard to temper, manners, moral character, and professional standing.

A candidate for the three-year certificate may substitute for any two of the branches numbered 7, 8, 9, and 10 (previously mentioned) any two of the following branches required for the diploma: Political economy, chemistry, Latin.

An average standing of ninety per centum, with not less than seventy-five in any topic, will be required for a certificate.

Graduates of any four-years collegiate course of study in the State University or State Agricultural College, or of any approved four-years collegiate course in approved institutions of learning, may be permitted to substitute subjects from said courses in place of the common branches, subject to the limitations of section seven of the law of 1893.

When the examination papers show a lack of knowledge of the common branches, so-called, viz: History of the United States, arithmetic, grammar, geography, orthography, and penmanship, the said Board is authorized to require the candidates to pass a specific examination upon the same.

All candidates will be required to make application on blanks furnished by the President of this Board, and no application will be considered which he does not certify as properly filled. Special blanks will be furnished candidates who desire the recognition of certificates issued by other States.

Examinations will be held the last week in May in approved institutions of learning, and the fourth week in August in the cities of Kansas City, Lawrence, Topeka, Emporia, Great Bend, Manhattan, Winfield, and in such other places as the Board may designate in response to applications filed in the office of the State Superintendent.

Our graduates can be sure of attention in all the requirements as to grades, and may well give some effort to securing what will be of use to them and an honor to their Alma Mater.

ECONOMY IN HOUSEHOLD AFFAIRS.

BY LOTTIE J. SHORT, '91.

“WISDOM provides things necessary, not superfluous.” A prominent writer and speaker on economic and social questions recently said that the cause of the greatest amount of unhappiness in the world is extravagance and the misuse of money. This is true, not only of the poorest classes, but also of the great body of Americans. To manage household affairs with frugality, and avoid habits of extravagance, is true economy. It has been said that a Frenchman can live on what an American wastes; indeed, we shall be brought to more carefulness along this line if we set a definite limit to our expenditure for food. We find there is much study to be done in domestic economy in this line to give the greatest good to the greatest number. While it is every one's duty to economize, especially is it essential to persons of limited income.

Accounts must be carefully kept. This is true especially in food expenditures, else we find ourselves feasting one day and starving the next, and this is demoralizing to the digestion, not to speak of the temper, to have two great extremes in the quality and quantity of food. There are those who think more of saving ten cents at a bargain counter than they do of saving the same amount at dinner. To have uniformity, one must have ability to plan the different meals a day ahead, at least; and just in this planning many will experience difficulty. By this planning ahead one can also take into account the amount of fuel necessary for cooking, and notice a marked decrease in it. For instance, when a fire is needed for roasting, then it is economy to prepare a pudding that requires two or three hours of steaming, or vegetables and meat that need boiling a long time. A number of combinations will present themselves to one who plans with reference to economy even in small matters. The charm of good housekeeping lies in the attention to little things. In buying food, it is possible, also, to secure reductions by buying in quantities such things as can be kept weeks or months at a time. Poor people should learn to get for their money as much and as good food as the same amount will buy for anyone else. One can save as much in the long run by exercising as much care in the numberless small purchases as he does in the fewer large ones. Louis XII. always practiced habits of economy, and when, one day, this was made a topic of ridicule in his presence, he quietly replied, “I had rather see my courtiers laugh at my avarice than my people weep at my extravagance.”

There are many combinations to be learned that transform cooking from commonplace drudgery into the learning and discovery of something new each day. We need to learn new ways of making common things palatable. Most people dislike the old-fashioned bread pudding, but if you transform it into a “queen of puddings” by using five minutes in placing spoonfuls of jelly over the top and making the white of an egg into a meringue and spreading this over the jelly, and then just give it a delicate brown in the oven, you have accomplished the economical purpose of the bread pudding and given more satisfaction to the palate. In the same way, left-overs, as bits of meat, may be made into croquettes, potatoes into potato balls, salmon into salad, yolks of eggs into mayonnaise dressing, bread into bread crumbs, cake into pudding, tomatoes and milk into soup, and many others which one can plan as the articles suggest. No one cook-book or person has a monopoly of the ways of making every-day foods palatable and giving them variety. Time, patience, and thought will accomplish much if one earnestly sets to work in accordance with these plans.

Domestic economy, as arithmetic, rhetoric,

and many like studies, is an art as well as a science. It is a study which is equally as refining, instructive, and elevating as others in a college course. Cooking often furnishes problems quite as difficult to solve as a quadratic in algebra, or a proposition in geometry. Theory is well to know, but much better is practical experience than all the cook books ever written. You may know a thing is so, or that such a reaction takes place, but to do the actual work is a different thing.

As a general rule, the best educated and most highly accomplished women make the finest housekeepers. Milton says, “Nothing lovelier can be found in women than to study household good.” The saving of two cents a day means something more than the saving of seven or eight dollars a year. It means a desire for independence, for the possession of higher things than food, clothing, and shelter. The general principles of the home apply equally, whether it be in the humble cottage of the poor or the gorgeous palace of the rich. But whether cottage or palace, make it a pleasant place. A cheerful, happy home is one of the greatest and richest blessings on earth. Let laughter and song be indulged in freely: nothing drives dull care away like a good honest laugh. “Take joy home and make a place within thy heart for her, and give her time to grow, and cherish her, then will she come and oft will sing to thee when thou art working in the furrows, aye, or weeding in the sacred hour of dawn—it is a comely fashion to be glad.”

RHETORICAL WORK IN THE DISTRICT SCHOOL.

BY M. V. HESTER, '94.

BESIDE the regular routine of “readin’, ‘ritin’, and ‘rithmetic,” there must come, of late years, the occasional duties of the school-boy—“speaking pieces,” writing essays, and debating. These, of course, are many and varied, but perhaps the greater the variety, the better the results of the school work, if all tends toward the one end—mental growth of the child.

Whether one be mechanic, lawyer, pugilist, preacher, or teacher, or whatever the calling in life, the old motto, “Practice makes perfect,” holds true. So it does in the little talks of the smallest school child, the picture-reading of the second reader boy, the story-telling of the third-grade pupil, the more or less rude essay of the fourth grade, and so on up to the neatly written, nicely paragraphed, and well-dressed composition of the candidate for graduation.

If literary work, or the so-called extra work, is judiciously and sufficiently given to pupils all the way from the chart class to the A division of the grammar grade, I believe this part of the course of study may be made almost as beneficial as the daily lessons given in mental arithmetic. And just in proportion as pupils have literary work of some kind, and are required to bring it in regularly, either to be examined privately by the teacher, or, better, perhaps, to be read in some kind of a literary society of the school, just to that extent will nine-tenths of the pupils of the district schools be fitted for life to write letters, essays, or anything else; because we know that about that number never go higher than the district school. Granted, then, that rhetorical work is highly essential, let us make it the best we possibly can.

The little one in the chart class is induced in every way possible to talk, and to talk freely and plainly. The first-reader boy soon learns the use of his slate in copying words and sentences from his book, making pictures, etc. Those in the second reader reproduce their lessons in their own words on their slates, using the imagination to some extent, and learning the use and spelling of

(Continued on page 154)

CALENDAR.

1892-93.

Fall Term—September 15th to December 23rd.
 Winter Term—January 9th to March 31st.
 Spring Term—April 3rd to June 14th.
 June 14th, Commencement.
 1893-94.
 Fall Term—September 14th to December 22nd.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds *at par*. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address, until July 1st, T. P. Moore, Loan Commissioner, Holton, Kan.

LOCAL MATTERS.

The last of the World's Fair material is shipped this week.

Secy. Graham made a business trip to Topeka on Tuesday afternoon.

The Cadet Band paraded to martial airs on the campus yesterday afternoon.

The Fourth-year Geology Class spent an interesting hour in the Museum last Tuesday.

Hickok's Mental Science has recently been donated to the Library by H. A. Darnell, '92.

Miss Hattie Allen visited College Friday in company with her friend Olive Voiles, Second-year.

The Library has been enriched this week by the addition of some 250 new books on almost as many subjects.

Mr. C. B. Gemeny, of Junction City, has donated to the Museum an American avocet (*Recurvirostra Americana*).

At the last meeting of the Domestic Science Club, Mrs. Kedzie was elected President, and Mrs. Nichols Vice-President.

Several wading birds, among them a Hudsonian godwit, of rare occurrence in this section, are added to the museum this week.

Miss Jennie Knowles, of Lasita, visited a day at College, on her return home from the State Normal, where she has been attending school.

The rain-fall of Wednesday night, in amount .92 inch by the College gauge, revives fields, gardens, and lawns that have long suffered for water.

The INDUSTRIALIST surrenders the greater part of its space this issue to editorial matter wisely provided against a dearth of local news this week.

Rev. J. G. Dougherty, pastor of the Congregational Church at Kansas City, Kansas, visited his son Bradford, First-year student, the first of the week.

The World's Fair promises to interfere somewhat with the attendance upon the Alumni Reunion. Still a large number of graduates will be here, and the success of both reunion and banquet are assured.

Mr. J. T. Ellicott, ex-Regent and ex-Treasurer of this College visited the institution on Friday of last week, and expressed his pleasure at the growth apparent on every side. Mr. Ellicott lives in Kansas City.

Prof. Mason has had engraved a special map of Kansas, showing contour lines of 1,000, 2,000, and 3,000 feet above sea level. Prints from the map will be used to indicate the distribution of the forest trees of the State.

Prof. Nichols used the public hour yesterday afternoon to talk about comets, and stated many interesting facts concerning the fiery rovers which are not generally known. The stereoptican rendered valuable assistance in illustrating the lecture.

The Fourth-year Class in Zoology has been arranged in two divisions for the purpose of better studying the classification of the different orders. Dr. Mayo has charge of those in the laboratory who are doing microscopic work, while the other division is classifying birds under the direction of G. B. Norris, first-year.

SOY BEANS.

The Farm Department has yet a considerable quantity of soy beans which will be sent free in small quantities to residents of Kansas who will send ten cents for postage, and grow the beans experimentally.

GRADUATES AND STUDENTS.

Chas. Campbell, '91, was up from Topeka last week.

A. B. Kimball, '89, attended Chapel exercises Friday.

Marie B. Senn, '90, Post-Graduate, is visiting the home folks at Enterprise.

Clara Newell, First-year, was detained from College Monday on account of sickness.

Emma Pape, of Topeka, visited her sister Ida, Third-year, from Thursday till Monday.

Lottie J. Short, '91, Post-Graduate, went to her home in Blue Rapids, yesterday, to visit until Monday.

Geo. F. Guy, student in 1884-5, came down from Riley Tuesday. He is one of Riley's enterprising business men.

Jessie Hunter, Third-year in 1891-2, went to Kansas City last Tuesday to visit an aunt. She will be gone about a month.

C. S. Criswell, in Third-year classes last term, has accepted employment in the freight department of the Santa Fe Railway Company at Kansas City.

James F. La Tourette, '77, until recently a stock-raiser at Wagon Mound, New Mexico, has taken a position in the Indian Agency at Fort Defiance, Arizona.

C. L. Gaul, Third-year in 1891-2, has just closed a very successful term of school near Burlingame. He will return to College next fall and graduate with the class of '94.

Edith Allman, student in 1891-2, lately graduating from Musgrave's Business College in Manhattan, went to Kansas City lately to take a position as stenographer.

Bessie Perry [Second-year in 1888-9], who has had charge of the grades of the city schools of Kiowa, Kans., the past winter, returned home Monday.—*Nationalist*.

Leah Reyburn and her brother Joe returned to their home in Leavenworth after the mid-term examination. Miss Reyburn's health would not permit of her finishing the year.

Ina M. Turner, '89, was married on May 4th to Mr. Edmond E. Bruce, of Topeka. Mr. and Mrs. Bruce will be at home after May 17th at 2304 Buchanan Street, Topeka.

Lyman Harford, student in 1888-9, and Laura Livings, student in 1889-90, were married in Manhattan on Tuesday, May 9th, and immediately left for their future home in Santa Rosa, California.

Cards announce the marriage of Henry Greeley, Third-year in 1888-9, and Miss Lewella Bronwell, of Oakland, Cal., May 9th. A reception was afterwards given them at the home of the groom's parents in Fresno.

The INDUSTRIALIST's statement last week that D. W. Working, '88, had been appointed Secretary of the Colorado State Board of Agriculture did not give all the facts in the case. Mr. Working writes that he is also Secretary of the Colorado Agricultural College, and that letters should in future be addressed to him at Fort Collins. The appointment was unexpected and unsolicited, but is deserved, falling as it does upon one who has devoted almost his whole time and energy for about five years past to the promotion of Colorado agriculture.

WANTED—THOROUGHBRED STEERS.

The Experiment Station at the College desires to buy or exchange for Shorthorns and Aberdeen-Angus cows and heifers, TEN THOROUGHBRED YEARLING STEERS, either Shorthorns or Herefords, or both. Must be good individuals, and recorded or eligible to record. Also ten common native yearling steers, with but little or no improved blood in them. Address propositions to

PROF. C. C. GEORGESON,
Manhattan, Kansas.

SCIENTIFIC CLUB.

May 5th.

Vice-President Hitchcock called the Scientific Club to order at eight o'clock.

Prof. Willard presented the paper of the evening on the subject, "Isomerism with reference to the Position of Atoms in Space."

"Seventy-five years ago chemists could not conceive of the existence of substances of the same percentage composition, but having different properties. A few years later the fact was uncontestedly proved, and Berzelius named such substances "isomers." Up to that time difference in properties had been attributed solely to difference in composition; after that it was recognized that a difference in the arrangement of the atoms must be the cause of the difference in properties observed in many cases.

"For many years chemists attempted no more than to determine the "linkage" of the atoms; that is, how the different atoms are united into a molecule without reference to their relations to each other in space. It was soon discovered that distinct substances exist, to which the same structural formula must be assigned; in other words, substances which were undoubtedly different showed by their chemical reactions that their atoms were united among themselves, in the same way in the two or more substances. This difference in properties was referred to a difference in the space relations of the atoms, and such substances were called "physical isomers," but no attempt was made for many years to determine this difference in space relations.

"These isomeric substances are found only in carbon compounds. Twenty years ago Van't Hoff and Le Bel pointed out that in the cases of physical isomerism where optical activity toward polarized light is present, the substances, according to the accepted structural formulæ, contain at least one carbon atom which is linked to four different radicals. It had been previously suggested that the quadrivalence of carbon and the equality of its four bonds could be expressed by a solid symbol, in which, with the carbon as a center, its bonds were represented as exercised in directions in space corresponding to lines connecting the center of a regular tetrahedron with its solid angles. Van't Hoff and Le Bel first recognized that, assuming this tetrahedron symbol for carbon, when four different radicals are united to a carbon atom, one at each angle of the tetrahedron, the figure no longer possesses a plane of symmetry, and they termed such a carbon atom "asymmetric." They showed further that in such a case two arrangements of the four radicals is possible, which are to each other as object and mirror-reflected image. In this way, then, two substances having the same atomic linkage might be expected to have different properties, and if one of them were dextro-rotatory because of its lack of symmetry, the other should be laevo-rotatory to the same degree. Such relations are observed between physical isomers. Further, if these two equally and oppositely active substances be mixed in equal quantities, optical inactivity will result, and a third substance be produced, of the same composition as the other two, but of different properties. By this hypothesis we are thus able to anticipate the existence of three isomers, where atomic linkage only would account for but one. This is perfectly illustrated by the ethylidene lactic acids. The four modifications of tartaric acid known, also exemplify the same principles as the lactic acids, and in addition give an example of a substance in which, from the presence of two asymmetric carbon atoms, optical inactivity results because of an opposite and compensating asymmetry in the two parts of the molecule.

"The tetrahedron hypothesis is further supported by the facility with which it explains the isomerism of fumaric and maleic acids, and many other similar bodies. Also by accounting for many chemical changes which are otherwise inexplicable. It also leads to interesting views in regard to the structure and stability of a number of complex substances, many of which are confirmed by experiment."

The latter part of the paper, as outlined above, was illustrated fully by models, without which useful abstraction is impossible.

The tetrahedron hypothesis was shown to be useful as suggesting lines for research and giving a tangible basis of explanation for hundreds of cases of otherwise inexplicable isomerism. It has thus far been found in accord with all the facts, and if it should continue to be so found for many

years it will take rank as an accepted theory.

Under voluntary reports, Prof. Hitchcock mentioned the recent observations of the Missouri Botanical Garden on the pollination of the yucca plant by the yucca moth.

Under unfinished business, C. H. Thompson was elected a member of the Club.

Adjournment. MARIE B. SENN, Sec'y.

COLLEGE ORGANIZATIONS.

May 6th.

The Alpha Betas were called to order at 2:30, Pres. Harner in the chair. After an organ solo, "Morning Prayer," by J. E. Mercer, and prayer by Mr. Thackrey, W. M. Coffey was initiated. A. C. Peck followed with an oration, "The Battle at the Alamo," an incident in Texan history where Col. Travis' band of soldiers was cut to pieces by Santa Anna. One Hulett read a selection from "The Biglow Papers." C. H. Thompson and J. J. Fryhofer affirmed and F. Hulse and F. M. Harling denied in debate, "That class distinctions in the United States are increasing." The affirmative brought argument to show that workmen, shop-girls, and others of similar standing, and the various nationalities and races were considered by many people as below them and not to be associated with. Illustrations from various parts of the country were drawn as aids. It was said that great dangers like the revolution were the only things that drew all classes together. The negative, on the other hand, tried to show that this feeling of superiority was not so wide-spread as many supposed, and that the tendency of American institutions was to lessen it. In refutation of the last point made, they said that when La Fayette revisited this country he exclaimed at the disappearance of the classes that had formerly existed. The negative received the unanimous vote of Messrs. Buck, Phipps, and A. H. Morgan, the Judges. The Gleaner, by M. A. Limbocker, contained, besides a review of the Ionian exhibition, several articles on sober themes, enlivened here and there by wit and caricature. A solo by C. W. Longnecker, who accompanied himself on the guitar, was followed by extemporeaneous speaking, in which all members joined. This ended the literary part of the programme. W. H.

May 6th.

The Websters were called to order Saturday evening at eight o'clock by President Pfuetze. Roll-call. J. V. Patten led in devotion. The minutes of the preceding session were then read and adopted. Following this the inauguration of J. U. Secret, as a member of the Board of Directors, took place. As the debaters were not all present, the debate was passed for the time being, and H. P. Neilson recited a declamation, "The Value of Reputation." This was followed by another declamation by Mr. Brittan. C. S. Milburn gave an interesting reading, entitled "A Single Hair." L. W. Hayes then rendered an excellent selection on the mouth organ, accompanied by R. J. Peck on the organ. The debate was next taken up, and C. A. Kimball and Mr. Zimmerman argued affirmatively, M. F. Hulett and F. R. Jolly, negatively, the question, "That the wage system is better than the profit-sharing system in paying laborers." The argument of the affirmative was that a man who is working for a known amount will conduct his affairs accordingly. The negative argued that employed and employers would work in unison, and therefore to better advantage because there would be no tendency to strike for higher wages, and less boom. Also that the laborers would be more careful in their work, as the better their products the greater their profits. The decision of the Society was in favor of the negative. After recess, F. R. Jolly briefly discussed the early history of agriculture. The Society was then entertained in a novel but charming manner by a trio consisting of Messrs. G. W. Smith, J. V. Patten, and L. W. Hayes. The song was indeed a novel one, and the singers appeared as if they wished to bring about a reform in the appearance of singers before the Society. Volume sixteen, number three of the Webster Reporter was presented by I. A. Robertson. Mr. Robertson had a good paper, which can only be gotten up by an effort of no little moment. Considerable time was spent under new and unfinished business. The session went off smoothly and lively, showing that the "spring fever" is not effecting the Websters very much. The Society adjourned about ten forty-five, as nearly as we could guess, for the Janitor, in one of his busy moods, turned out the lights. F. J.

May 6th.

Promptly at eight o'clock, the Hamiltons were called to order by President Lyon. Roll-call. Prayer, V. Emrick. After the reading of the minutes of the previous meeting, the programme of the evening was opened by a very amusing declamation, "The Lightning-rod Dispenser," by C. D. Adams. Next was an essay by A. D. Bensen, entitled "A Boat-ride After Chapel," followed by a well-written oration by A. P. Carnahan, and an interesting discussion by W. H. Painter. The debate on the subject "Is war a folly?" was argued in a manner which it would be well to copy. E. B. Coulson and E. Emrick for the affirmative claimed that war was at the present time totally impracticable, as the commercial and friendly relations which exist between nations are far too vast to permit their destruction by war. It is a folly at the present time on account of the vast sums of money required to keep up the standing armies who would carry on this war. Those of Europe now cost \$345,000,000 yearly. It is folly since it is unnecessary, as all international disputes can be peacefully settled by arbitration. One-fifth of the money spent in the last war would have bought all the negro slaves in the South, showing that it was financially foolish, to say nothing of the immense loss of lives and happiness which was involved. In arguing the negative, V. Emrick and J. W. Holland said that in wars there was usually some high principle at stake, and no amount of money would be wrongly spent in its maintenance. War, and nothing else, could have gained our independence as a nation, and the slaves could not have been bought, as their owners would not sell them. War is also the only way by which the national dignity of any country can be preserved. Judges Staver, Smith, and Floyd decided in favor of the affirmative. After a short recess, a good edition of the Recorder was read by C. A. Johnson; motto, "Don't Sass the P. M. Boss." C. D. Lesley next favored the Society with a piano solo, J. D. Riddell, music committee. On account of the lateness of the hour, the remainder of the programme was dropped, and new business occupied the Society till so late that several motions had to be voted on in the dark. R. J. B.

RHETORICAL WORK IN THE DISTRICT SCHOOL.

(Continued from page 152)

words. And so on up through the successive grades. Thus far, a great deal of such work may be made routine duties, and more or less "busy work," but it is gradually tending toward the better and fuller stories, essays, and compositions of the higher grades. Of course we suppose the teacher carefully looks over, criticizes, and mends all such written work. All mistakes in spelling, punctuation, and capitalization are fully and clearly marked. Along with the ever-increasing pencil work, the child must learn strictly rhetorical work. And just here we believe the teacher needs to have a level head and a steady nerve as much as in any other part of his work. The child should learn to enjoy speaking a declamation, and not have a horror of Friday afternoon. And thus would be prevented these cases of ignorant, grown-up, indifferent kind of fellows who say boastfully, "I never spoke a piece in my life. When it came my turn, I always got out of it." Probably the blame for such cases is with the teacher to whom the individual went to school when he was a child.

For declamations, children almost invariably prefer speaking poetry to prose. Perhaps their preference may be granted for a few years, but it is best after a while to choose prose selections. There seems to be a strong tendency in some natures, at some ages, and in some classes of society to always speak "funny pieces." Anything that is funny is good. Let such natures grow if they will. But it has always seemed to me that the more sound, sensible, and solid declamations the boy learns, the better it is for him.

Another main branch of rhetorical work is debating. We must remember that the boy and girl get their sole education in the district school. Almost their entire educational preparation for life depends on their own efforts and the enthusiasm of their teachers while they are in the district school. Then in order to prevent our pupils from being as ungainly at forty and fifty years of age as some of the older people are at present in discussing various public matters, is there not a necessity for some training in the way of debate, especially when we consider the demand at present. Is there anything better to develop the stamina of a bashful boy or girl than formal debating? How much a good simple question discussed in a spirited manner helps the boy and the girl to think for themselves, to find logical arguments, and to form conclusions of their own. It is surprising to see the amount of good a boy ten years old may get out of such work.

Ex-Superintendent Winans said in the January number of the *Western School Journal*: "Today, more than ever before, I believe teachers are less anxious as to how much a child may be forced to learn in a given number of months, and more concerned about how much may be done in the school room in training to upright, intelligent, virtuous manhood and womanhood." You know, Lord Bacon said, "Reading maketh a full man writing an exact man, and conversation a ready man."

Lastly, we believe every school, as nearly as practicable, should have an organized literary society. A society may be complete with eight or ten pupils. The advantages of it are as the sands of the sea shore. It may and should make a small ocean of work for the teacher, in so much constant oversight, for the rich results will amply repay the teacher who is interested in the growth of his pupils, as he should be.

As the different pupils fill the respective offices, and are assigned to each of the several parts of a programme, almost in rotation, they learn by actual experience, though seemingly simple, many

times faster of the real management of executive work than they would by observation. The programmes should consist not only of declamations and songs, but debates, stories, narratives, news of the week, correspondence, and good substantial society papers, and various other orders of exercises. Thus, every nook and corner may be used from beginning to the end for the pupil's practical goal. Then, when a term of school shall close, the teacher may feel that he has done his duty, and feel sure that his pupils have made some advancement outside of the "three R's."

Have you marked out for each field just what you intend to do with it in the opening season, and have you figured out about what you may reasonably expect from it? If not, why not? Or are you jumping into this or that section of the farm, hit or miss, with whatever may strike you at the time, thus lessening the chances of "hit," and greatly multiplying those of "miss?" These are good questions to scratch one's head over just now. If any man needs to precalculate it is the farmer. There is already sufficiency of hazard in his business, without willfully inviting any more. The wise man seeks to reduce risk, rather than increase it—doesn't he?—*National Stockman and Farmer*.

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc. '75.

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A. J. WHITFORD sells Stoves and Hardware at very low prices, and carries a large stock from which selections may be made. Student patronage respectfully invited.

DENTIST.

D. R. G. A. CRISE, Dentist, 321 Poyntz Ave. The preservation of the natural Teeth a Specialty.

PHOTOGRAPHS.

D. DEWEY, the photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue.

LIVERY.

PICKETT'S NEW LIVERY STABLE.—Everything new and strictly first-class. Special attention will be given to student trade. Prices that will suit you. Stable three doors east of Commercial Hotel.

MEAT MARKET.

SCHULTZ BROS. offer Fresh and salt Meats in great variety. Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

SHAVING PARLOR.

BATHS, \$1.00 cash. 12 shaves, \$1.00, cash. Hair cutting a specialty. All work first-class at Pete Hostrup's Barber Shop, South Second Street.

GENERAL MERCHANDISE

THE SPOT CASH STORE is Headquarters for Dry Goods, Novelties, Boots and Shoes, Hats and Caps, Clothing, and Ladies' Wraps. Lowest prices in the city.

E. B. PURCELL, corner of Poyntz Avenue and Second Street, has the largest stock in Manhattan, of everything wanted by students, consisting in part of House-keeping Goods, School Books, Stationery, Boots and Shoes, Clothing, Hats and Caps, Dry Goods, Groceries, etc., etc. Goods delivered in all parts of the city and at the College, free of charge.

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COLLEGE BUSINESS.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

VARIETY AND DISTRIBUTION OF KANSAS TREES.

BY PROF. S. C. MASON.

THE traveler upon any of our railroads leading out of Kansas City might notice a heavy timber growth along the river bottoms, where it has not been cleared up, with a considerable growth extending up the face of the bluffs or over the low hills, broken here and there by stretches of prairie, as he gets out a few miles from the Kansas River. Going north or south in the eastern tier of counties would lead to other valleys similarly wooded; but working toward the west, the timber on the bluffs and uplands would soon begin to diminish and disappear; that along the bluffs fronting the streams would be left behind with the first 200 miles, the timber being reduced to a belt a few rods wide along the banks of the main streams, deepening into groves of several acres at the sharp bends, or the confluence of other streams, and thinning out to a mere fringe if one of these small tributaries is followed out, till finally only scattered clumps and single trees are found along the "dry creeks" and draws leading out to the prairies. For the next hundred miles he will find the timber diminishing rapidly, or, in the southern half of the State, disappearing almost entirely on the large rivers; but following almost any of their smaller feeders back toward their sources, he will find a fair growth in a narrow valley winding among the hills. He may even see dense little thickets of scrubby trees high up along the northern face of some chalky bluff, and be surprised by a sudden glimpse of a clump of rugged and storm-beaten red cedars growing out of the bare face of some chalk cliff. For the last hundred miles, if he travel toward the southwest he may not see a tree, or only here and there a solitary cottonwood or elm. Along the Smoky Hill, Solomon, and Republican Valleys, scattering groves of elm, hackberry, or willow will be found clear to the State line, and the rivers lower down are never found bare of timber, as are those of the southern slope.

A bird's-eye view of the State would show the heaviest and most extensive forest growth in the eastern and southeastern counties, but the trees extending out along the streams considerably farther in the northwestern counties than in the southwestern. A critical observer would notice that with the greater density of growth in the east was also found a much greater variety of species, while the scattering groups of the west would be found to contain but few forms.

The causes which affect the distribution of trees in Kansas may be found, first, in the altitude, or height above sea level; and second, in the latitude. There are doubtless many other causes operating locally to produce the results as we find them to-day, some of which are partially understood, and others of which we know but little. The transporting of seeds by birds and various animals, by wind and by water; the checking of timber growth by fires and by tramping of thousands of buffalo, have all had their influence in making our tree growth what it was found to be by the early settlers of the State.

As to altitude, the lowest point in the State is the mouth of the Kansas River, at Kansas City, which has an elevation of 751 feet, as given in Prof. O. St. John's "Report on Kansas Geology," Third Biennial Report, page 571.

From this point the rise to the west is quite regular and gradual, though more rapid at the west, till several points along the Colorado line attain an altitude of 4000 feet.

Professor St. John has called attention to the

remarkable parallelism of the contour lines, representing distances of 1000 feet in elevation, being broken only by the irregularities of hill and valley, caused by erosion.

In the meteorological record of the First Biennial Report, page 558, the State is shown divided into three districts, corresponding approximately to 1000 feet, 2000 and 3000 feet elevation, and a regular gradation in the mean rainfall of the two years covered is shown on page 560, the average for 1877-8 being, in the 1000 feet belt, 41.03; for for 2000, 28.96; and for 3000 feet, 23.68 inches.

In the Fifth Biennial Report, part II., page 180, is a table of mean annual precipitation, at various points in the State, from earliest records down. Taking the time from 1865 down, when the record of Fort Larned begins, we find that an annual precipitation of 40 inches or over does not occur outside of the line of 1000 feet altitude, with the single exception of one year, at Wilmington, which is but a few miles beyond the line, and but a little above that elevation.

In the Sixth Biennial Report, part II., page 212, the precipitation chart for 1888 shows a tract about two counties wide, across the east end of the State, with a rainfall of 40 inches and over. A second belt, west of this, more irregular in outline, shows 30 to 40 inches. The area covered by these two correspond roughly to that below 1000 feet altitude.

In the Seventh Biennial Report, page 227, we find that the stations showing a mean annual rainfall of 30 inches or over, for the time observed, are below 1200 feet elevation.

The second cause, that of latitude, though not playing as important a part, apparently, as the first, yet is not without important influence upon the tree growth of our State. A difference in minimum temperature of 22 degrees, as has been recorded, or even 12 degrees or 15 degrees, as is usually the case between the southern and northern tiers of counties, may easily bear the regular and total destruction of the fruiting buds of many sorts of trees should they by any means become introduced. So we may naturally expect to find in the southern counties, where the mercury seldom falls much below zero, many species of trees and shrubs not able to maintain a footing in the more northern counties, where a temperature of 10 degrees below zero is an almost yearly occurrence and a drop to minus 25 degrees is not unknown. As an illustration of this, I will cite the *Sapindus acuminatus*, or China-berry, a tree of the maple family, found in several of the counties of the southern tier, and becoming in some cases a tree of two feet in diameter. A few specimens of this have been found near Manhattan, fully a hundred miles out of its range. How the seeds became deposited at this point is a mystery; but though the annual rings of growth show the plants to be at least 14 years old, they are still mere bushes, not over two or three feet high, and an inch in diameter.

The following lists of trees show as nearly as can be approximated from data at hand the altitude limits of the various species of trees in the State. It will be noted that while the variety decreases rapidly toward the west, yet several of our most valuable species are found making a valuable growth at high altitudes:—

Trees of Kansas found only below 1000 feet altitude, approximate:—
Asimina Triloba (Papaw).
Ptelea Trifoliata (Wafer Ash).
Ilex decidua (Holly).
Aesculus glabra (Ohio Buckeye).
Acer saccharinum (Sugar Maple).
Acer dasycarpum (Soft Maple).
Rhus copallina.
Robinia Pseudacacia (Black Locust).
Prunus serotina (Wild Black Cherry).

CALENDAR.

1892-93.
 Fall Term—September 15th to December 23rd.
 Winter Term—January 9th to March 31st.
 Spring Term—April 3rd to June 14th.
 June 14th, Commencement.
 1893-94.
 Fall Term—September 14th to December 22nd.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds *at par*. The law requires that no bonds be sold *at par* or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address, until July 1st, T. P. Moore, Loan Commissioner, Holton, Kan.

LOCAL MATTERS.

Miss Lillie E. Aken was a visitor Friday, the guest of Bertha Spohr.

Mrs. Thackrey, of College Hill, attended the public exercises Friday.

Mrs. A. A. Cottrell, of Wabaunsee, visited her three daughters in College yesterday.

Rev. E. J. Norton, of White City, is visiting his son and two daughters in College this week.

Mrs. Agnes Fairchild-Kirchner, with her little son Robert, is spending a few weeks with her parents.

Multitudes of students join the excursion to Fort Riley today under direction of the Christian Church.

Councilman Pfuetze listened to the Chapel speakers yesterday afternoon, of whom his son was one.

Rev. I. D. Newell was present at the Chapel exercises, in which his daughter Nora took part yesterday.

Materials for the dynamo in process of construction in the Physics Department were received this week.

Ex-Regent Finley passed through Manhattan last week on his way to the World's Columbian Exposition.

Louise Deputy, of Leonardville, who is visiting her brother in town, called at the College Friday, in company with Mrs. Deputy.

Regent Forsyth spends a few days in Chicago while waiting for the corn ground in Montgomery County to dry off enough to work.

Prof. Hood is authorized by the State Board of Public Works to plan and supervise the construction of the new steam plant to be built this summer.

Prof. Georgeson attended a meeting of stock growers in Kansas City yesterday, and today is looking up young stock for experiment at Herington, Kansas.

Several crates of finely mounted insects started for the Columbian Exposition this week to find their place in the cases already arranged in the Kansas Building.

Prof. Hitchcock shares this week in the Annual Banquet of Botanists at the Missouri School of Botany in St. Louis. Assistant Carleton met his classes for two days.

The new iron and tile shelving in the old greenhouses is getting into place under the hands of Mr. Lund. When completed they will make a permanent improvement in these houses.

State Architect Davis is studying the sketches prepared by Prof. Walters for the new Library and Science Hall, and finds them a great help toward perfecting plans, upon which he is already engaged.

The first game of base-ball this season was played at the City Park Friday afternoon, Juniors vs. Sophomores. The game was interesting throughout, resulting in a victory for the Sophomores. Score, 11 to 12.

The machine for displaying pictures of the College in the Kansas Building at the Columbian Exposition is completed, and Mr. Condry, who has been engaged upon it for some months, has returned to his work in Topeka.

The Fifth and last division of the Fourth-year Class, ten in number, occupied the Chapel platform Friday in discussions as follows: "Our Standing Army," C. F. Pfuetze; "Demand of the Ideal," Agnes Romick; "A Plea for the Dreamer," May Harman; "Discrepancy between

Thought and Action," W. J. Yoeman; "Opening of the Indian Lands," W. E. Smith; "Manners and Customs of the Egyptians," Nora Newell; "Another Existing Evil," C. H. Thompson; "Hidden Mysteries," Susie Noyes; "Growth of the Benevolent Spirit," J. E. Thackrey; "A Power in the World," Geo. K. Thompson.

On Friday morning some twenty ladies from the missionary meeting for the Central Association of the Congregational Church attended Chapel exercises and visited the various buildings under guidance of several graduates.

Mrs. Winchip returned on Saturday last from her work in the Chicago Exposition impressed with the immensity of the Exposition grounds and the immensity of the task of installation of all the exhibits. The walk from the Kansas Building, where one of our College exhibits stands, to the Agricultural Building, in which the College shares with the other State Agricultural Colleges in an exhibit, takes fully thirty-five minutes.

GRADUATES AND STUDENTS.

Lillian, St. John '91, was a visitor Friday afternoon.

E. C. Pfuetze, '90, attended rhetorical exercises in Chapel Friday afternoon.

Alice Horton, First-year in 1891-2, will soon open a music school in Manhattan.

Gertie Haulenbeck, First-year in 1892, accompanied by her mother, was a visitor during the week.

Marie B. Senn, '90, is detained at her home in Enterprise on account of the serious illness of her mother.

Clayton Hunter, Third-year in 1891-2, takes Mr. Varney's place at the book-store while the latter visits the east.

Cards are out announcing the marriage of Bertha Hederstrom, First-year in 1889-90, of Burlingame, to Mr. G. A. Jonte, May 24th, 1893.

A letter from Jeannetta Zimmerman, '91, announces her intention of being present at Commencement exercises and the Alumni Banquet.

W. J. and Frank Yoeman, Fourth and Second-years, were absent from College a few days this week on account of the death of their sister-in-law.

Mary E. Cottrell, '91, who has been taking Post-Graduate studies, started yesterday for Chicago, where she has employment during the World's Fair.

W. O. Peterson, in Second-year classes last term, has returned from Chicago, after visiting his brother and attending the World's Fair.

J. E. Payne, '87, writing from Edgerton, is the first graduate to apply for a State teacher's certificate under the recent act of 1893.

F. A. Campbell, '90, in renewing his subscription, writes that a contemplated trip to the World's Fair will prompt his attendance at the Alumni Reunion.

Harry F. Guthrie, of Topeka, First-year in 1889-90, was married May 10th, to Miss Adella Horr, of Frankfort. They will make their future home at Atchison, Kansas.

Advance sheets of the Standard Dictionary of the English Language, published by Funk & Wagnalls Company, New York, bears the name of W. T. Swingle, '90, as one of the four botanical editors.

SCIENTIFIC CLUB.

May 5th.

Prof. Willard called the Scientific Club to order. Mr. Burris presented a paper on the subject of the per cent of fat in milk.

In the discussion of this paper, Dr. Mayo described the process of milk secretion, and Prof. Georgeson gave a brief account of the sterilization and fermentation of cream in the dairies of Denmark.

Under voluntary reports, Dr. Mayo reported finding a new kind of stone implement at the old Indian village near here.

Prof. Georgeson described prehistoric burial places found in northern Europe.

Prof. Hitchcock reported observations of methods used by different insects in getting honey from the flowers of *Amsonia Tabernæmontana*.

Arrangement of dates and programmes of meet-

ings between now and Commencement was referred to the Programme Committee.

Adjournment.

GRACE M. CLARK, Sec'y pro tem.

WANTED—THOROUGHBRED STEERS.

The Experiment Station at the College desires to buy or exchange for Shorthorns and Aberdeen-Angus cows and heifers, TEN THOROUGHBRED YEARLING STEERS, either Shorthorns Herefords, or both. Must be good individuals, and recorded or eligible to record. Also ten common native yearling steers, with but little or no improved blood in them. Address propositions to

PROF. C. C. GEORGESON,
Manhattan, Kansas.

SOY BEANS.

The Farm Department has yet a considerable quantity of soy beans which will be sent free in small quantities to residents of Kansas who will send ten cents for postage, and grow the beans experimentally.

COLLEGE ORGANIZATIONS.

May 12th.

Immediately after Chapel exercises, the members of the Ionian Society and many visitors filled the Ionian Hall. President Mudge called them to order. After singing, Laura G. Day led in prayer. Susan Johnson opened the program with a discussion. Misses Crump and Hayes then entertained the Society with an instrumental duet. They were heartily encored and responded with another instrumental. Mary A. Lyman then gave a select reading from Helen Hunt Jackson. The selection was earnestly and distinctly read. A piano solo was given by Rena Heider, which was highly applauded. The Oracle was then presented by the editor, Hilda Walters; motto, "A stitch in time saves nine." Many pieces of interest and instruction were therein found, and the reader, in her characteristic manner, impressed them upon the minds of the hearers. After unfinished business, new business, and report of Critic, the Society adjourned.

B. J. S.

May 13th.

At eight o'clock the Hamiltons were called to order by Pres. Lyon. Roll-call. Prayer, C. R. Hutchings. After the reading of the minutes of the previous meeting the program of the evening was taken up as follows: Declamation, "The Indian," J. Poole. An interesting account of a wolf hunt, by W. A. Coe. The debate on the question "Resolved, that the wealth of the future lies more in the industrial than in the professional lines," was argued affirmatively by H. I. Floyd and G. C. Hall, they claiming that as the industrial class is the only one that really produces wealth, the wealth of the future must of necessity lie in their lines. All the lawing of the professional cheats called lawyers and all the cures of the doctors cannot produce one cent of wealth, though it does cause many dollars to change hands. The fact that the colleges which are now being started are tending more and more toward industrial training and less towards professional is a good indication as to where the money is now earned. E. C. Joss and Mr. Thomas stated for the negative that if professional men, such as lawyers and preachers, do not really produce the wealth that they get and keep, at least their share of it, why is it, for instance, that right here where men are well up in industrial lines of work, and even our "P. M." bosses intend as soon as they graduate to take up studies to prepare for some professional life? Do they not know in which direction their best interests lie? It may be seen everywhere that the best talent deserts the industrial and goes to the professional side. Judges Rice, Hutchings, and F. R. Smith decided in favor of the affirmative. Music, guitar solo, E. B. Coulson; I. Jones, committee. The Society was next entertained by a very instructive discussion on the "Soy Bean," by J. A. Rokes. Newsman F. R. Smith reported all the important happenings of the past week. Music, instrumental duet, Lesley and Mercer. After a recess the program consisted of an interesting discussion about the new steam man, presented by H. G. Johnson, and a select reading by G. D. A. After new and unfinished business, the Society carried on a lively discussion as to the merits and demerits of the recent "strike" of the Third-years. Report of Critic; adjournment.

R. J. B.

May 13th.

The Webster Society was called to order by President Pfuetze. After roll-call, M. F. Hulett led in prayer. The minutes of the previous meeting were read and adopted. The program of the evening was opened by the debate on the question "Resolved, that the students of this College should be allowed to choose their own industrial." C. R. Farwell and C. Dolby supported the affirmative side of the question by arguing that as in the case of "P. M.," the time is wasted to those who wish to work in the iron or carpenter shops; and that if they were allowed to take the industrial they wished to perfect themselves in, it would be of more value to them. And, that by taking one industrial and sticking to it, the student would be more successful. B. F. S. Royer and E. C. Trembley, in refuting the argument of the affirmative, argued that with the exception of the three terms prescribed for in the course, the students are at liberty to choose their industrial; and, as many of the students who come here are young and ignorant of the different kinds of work done here, and that by simply taking one industrial they would remain ignorant of the others. It was also argued that "P. M." is of benefit to those who never have earned any money, by giving them an idea of its value. The Society decided in favor of the negative. Next on the program was a very amusing declamation, "Babies," by H. Robison. D. C. Arnold read an essay, "My 'P. M.' at the Farm," followed by a well delivered declamation entitled "Don't Crowd," by H. C. Rodgers. The Society was then entertained by a violin solo by C. D. Lesley, accompanied by J. E. Mercer on the organ; G. A.

Dean, music committee. The music was greatly appreciated, as manifested by the hearty encore which they received. After recess, A. F. Neimoller made a speech on the subject of "Political Parties." In discussing his subject, Mr. Neimoller thought it proper to study the history of the parties from Washington down to the present time. The speech was pointed and well illustrated by statistical facts. Following this came a discussion by C. H. Stokely on the subject "The Newspaper." He spoke of the advance made in their numbers and size, and also of the rapid manner of gathering news. The Society then turned its attention to orders of unfinished and new business, considerable time being spent under each.

F. R. J.

May 12th.

The Alpha Beta Society met at the close of Chapel exercises. C. D. Lesley introduced the program by a violin solo. Miss Hulett led the Society in devotion. C. C. Smith delivered a recitation, "The Bells," and was followed by Fannie Parkinson, who read an essay on the theme, "Is Poverty a Truer Developer of Character than Riches?" The debate, "Is conscience a correct moral guide?" was argued on the affirmative by Elva Palmer and Stella Kimball, and on the negative by Walter Harling and Sadie Moore. Miss Palmer said, in brief: If conscience is a moral guide, it is the principal part of the mind; all have this guide to some degree, even heathen; conscience is given us to follow, and if we do it we are rewarded; it can support one in right though all go against him; all that is necessary is to follow its dictates and we have a correct moral guide; it is so recognized by the Bible, and man is responsible to God for his actions. W. H. Harling admitted that one should follow his conscience, yet everyone knows that such a one is not fully enlightened as to moral laws; of the several ways by which this may be gained he has only a part; this gives rise to the anomaly that he feels to be right what another is assured is wrong; besides the possibility of education, conscience is also liable to perversion; such variation is incompatible with correctness and infallibility. Miss Kimball, of the affirmative, thought moral codes differ with various nations; thus the various people, if they only conform to their standard, were consequently right; what could fulfill the demand for a guide if conscience does not? all our experiences with civil laws shows how faulty they are. Miss Moore continued the negative: If the voice of conscience is the voice of God, how could some people be worshiping many gods while others only worship one? We have the same trouble in political belief; conscience is as variable as a weather-cock; can we believe persons right in burning witches or keeping slaves, as they conscientiously did? If conscience is a correct moral guide, the Bible is unnecessary. Miss Palmer said in reply: Conscience must be used conjointly with reason and common sense; it then gives moral laws of which if followed more closely we would get nearer right than we are. Mr. Harling in closing pointed to the failures of philosophers founded on conscience. This was as liable to miss fulfilling its office as any other faculty of the mind. And lastly there were combinations which formed a correct moral guide, rendering it unnecessary for conscience to be such. The Judges, J. C. Christensen, Fryhofer, and Hulse, decided in favor of the negative. A sprightly number of the Gleaner, edited by C. W. Longenecker, was then listened to. After recess, Maude Parker rendered an original organ solo, and the program closed with an informal speech on Composite Photographs by Maud Gardiner.

W. H.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

The seventh annual session of Chatuaqua Assembly at Winfield will begin on June 20th, and continue until June 30th.

The Seneca High School graduates nine pupils this year. The graduation exercises will be held on Friday evening, May 26th.

News comes from Emporia that Prof. J. N. Wilkinson is to remain another year with the State Normal school before going to Europe.

G. W. Kendrick, Superintendent of the Clay Center Schools, has been elected Superintendent of the Junction City Schools with a salary of \$1,500.

The closing exercises of the Manhattan City Schools, held last evening at Moore's Opera House, were well attended, and the patrons are united in the verdict that the programme was the richest and best ever presented at such an occasion in the City. Superintendent Knipe and his corps of teachers may well feel proud of their success.

Supt. Geo. L. Clothier of Wabaunsee County sends us the programme for the seventh session of the Normal Institute of his county, a neat little pamphlet of eight pages, with colored cover. The institute will commence June 6th. Mr. G. W. Kendrick will be conductor, and Mr. W. O. Gantz, of Alta Vista, C. L. Dilley, of Halifax, and Supt. Clothier himself will be the instructors.

The State Board of Education have issued a small pamphlet containing the "Rules and regulations governing the issuing of State certificates, life diplomas, conductor's and instructor's certificates, and approval of the Course of Study of institutions of learning," as adopted by the Board at their April meeting. The pamphlet also contains the law providing for the acceptance of certain grades of State Teacher's Associations from certain institutions of learning, as passed by the last Legislature. It is a valuable little document that should be in the hands of every teacher.

THE ART OF "GETTING THERE."

(Continued from page 156).

stuffs, swindled the people of the United States out of ten million dollars, and made suffering all up and down the land, and would like to compromise the matter with Thee. Thou knowest it was a scaly job, but then, it was smart. Now here we compromise it. Take one per cent of the profits, and with that one per cent you can build an asylum for these poor miserable ragamuffins in the street, and I will take a yacht and go to Europe, forever and ever. Amen!"

Ah! my friends, if a man hath gotten his estate wrongfully, and he builds a line of hospitals and universities from here to Alaska, he cannot atone for it. After awhile, this man who has been getting a corner in wheat, dies, and then Satan gets a corner in him. He goes into great, long, Black Friday. There is a break in the market. According to Wall Street parlance, he wipes others out, now he is himself wiped out; no collateral on which to make a spiritual loan. Eternal defalcation.

Is this success? I scarcely need ask the question. Yet men will do such things—are doing just such things every day, in hopes of finding a short road to success. It cannot be done. There is a price to be paid for success. There is not a successful business in the land, from the smallest store to the greatest, that has not cost the author of its success very much more than can ever be shown upon his ledger. More than one proprietor, in times of emergency and extra strain, has envied the careless freedom of his clerks, and more than one employer has paid his employee more than he dared to appropriate for his own use. The man who is not willing to pay this price does not deserve the success that is sure to reward those whose honesty commends them in all business undertakings, and whose willingness to sacrifice self wins for them a place at the top. For "the man who exchanges character for cash, purity for power, principle for party, or manhood for money, is a failure first, last, and always. All the money in all the banks of all the States of the United States will not make a bad man a success. Self-full does not mean successful."

UNDER-CURRENTS.

BY GERTRUDE J. HAVENS, '95.

SCIENTISTS tell us that under the surface of the ocean are a number of currents—rivers in the ocean. They flow in different directions, and often quite rapidly, though the surface may be quiet. These currents are very strong. Seamen who have let down the measuring line find that it is often caught by an undercurrent and, when they try to draw it in, the current is so strong that it parts the line.

So in our lives there are under-currents. We are compelled by society to present a quiet, unruled surface to the world, but under this are rivers in which our real life flows. To others we may seem kind and thoughtful, when we are only trying to advance our own interests; or we may appear cold and thoughtless when in our hearts there is a feeling of kindness to all around us.

These undercurrents are very strong; and if we supply them from day to day they grow stronger and stronger. Unlike the ocean currents, they will sometimes come so near the surface as to be visible to others. If we, then, supply them with selfish, ambitious thoughts, constantly endeavoring to push our own interests at the cost of others, we shall become selfish and disagreeable, dissatisfied not only with ourselves, but with all around us, thus attracting to our hearts but few friends. If we supply them with trifling digressions from the strict paths of truth

and right, the stream will grow blacker and broader and deeper, and at last end in a whirlpool of sin and shame that will drag our souls down to degradation and to death.

But if we feed these streams with living thoughts for others, an honest ambition in which we help ourselves by helping those around us, the stream will broaden and deepen until, when the gates of heaven are thrown open to admit us, the glory of that place will shine out, and down on the quiet stream of our lives, lighting it up with a splendor that will give to the world a little glimpse of the glorious future awaiting those who try to "do all the good they can, as long as ever they can."

Let us then see that, so long as we have these streams under our control, we feed them with words and deeds that will bring us joy and not sorrow, life and not death.

The farmer's home that is well supplied with good, clean, honorable newspapers possesses facilities for education that cannot be surpassed. Newspapers are the great educators of the people, for either good or evil, and the farmer that would be informed himself and have his family educated, should have plenty of newspapers of the highest moral and intellectual character in his home.—*Home, Field, and Farm.*

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Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work—studies, examinations, grades, boarding-places, etc.—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

DRAWING AN AID TO SEEING.

BY GEO. L. CHRISTENSEN, '94.

DRAWING is a universal language; yet we find but little or no attention given to it in our district schools. To the popular mind, the ability to faithfully represent objects and ideas graphically is an art that belongs solely to the artist, the architect, and the engineer. No possible connection can be seen between drawing and farming, for instance, or how, in any way, drawing can be made to advance the interests of the stock-raiser. It is to such a view of the subject held by a great number of those who employ the teacher, and, possibly in some cases, to a reluctance on the part of the teacher himself to introducing more subjects in an already crowded course of study, that we may attribute this lack of attention to drawing in the district schools. This is an age of utility, and we are apt to shun all that does not contribute directly to that end; still, while it may be well to have the standard of utility as a test, care need be taken that in our eagerness to maintain the same, we do not defeat our very object.

Drawing is a most useful art in itself. It is estimated that nine-tenths of the people engaged in industrial occupations may be benefited by a knowledge of drawing, and the other tenth, it is said, constitutes the poorest paid of any class of workers. But wide as are the applications of art itself to the varied industries of life, still wider in its application are its benefits as an aid to seeing—a means of exercising and training the observing powers.

Drawing becomes an aid to seeing in three ways: It cultivates the habit of seeing things as they are; it enables us to reduce many abstractions to a concrete form; and it educates our aesthetic natures so that we are able to see and appreciate the beautiful in art and nature. The first of these benefits, perhaps, concerns the greatest number of people, though the last two can hardly be said to be of less importance. All will admit that accuracy in observation is of the greatest value to the individual; yet all do not seem to realize that a systematic training of the observing powers is quite as important as a systematic course in reading or counting.

Drawing becomes important, because it gives such a training. It secures accuracy of observation, for the mind must ever be alert to note all the details of the object under consideration, and to place these details in their proper relation and proportion. The student of drawing learns to judge accurately of the character of the object from its appearance; and incidentally he discovers how largely his seeing is influenced by his previous knowledge—his previous contact and experience with objects and things. He also learns to hold an element of reserve in his faith in the seeing ability of his own eyes; for while his observations are all the time becoming more accurate, he has found that he may yet be deluded by appearance.

Such a reserve is really a great aid to accuracy in seeing, and perhaps nothing will so soon show the need of it as drawing. Thus drawing becomes an aid to seeing things as they are, for in its exercise are called into action all those elements of the mind that in their united action tend to produce an accurate impression of the object viewed.

Many puzzling studies may be greatly simplified by the application of drawing. In the arithmetic of magnitude, drawing becomes an indispensable aid. It reduces the abstract problem to a simple geometrical demonstration, and places it before the mind in such a form that it cannot avoid "seeing through" the whole. It is here that the "man with an idea" finds a ready helper. He

places his thoughts on paper in the form of a drawing, and his ideas, at first but crude and vague abstractions, now assume a tangible form. New thoughts come rapidly, and soon the result presents a finished whole—a completed machine, or perhaps a picture, as the case may be. Drawing has enabled him to hold his ideas up before his own eyes, so to speak; and to view them from that standpoint in all their possible relations. But it has done more than this. It has become a means of communicating those ideas to others, of making others see and feel what he has seen and what he has felt.

Drawing educates our aesthetic nature. In drawing, one is constantly dealing with elements which, properly combined, produce beautiful effects: one is constantly called upon to discriminate between that which pleases, and that which cruelly grates upon our aesthetic nature.

This exercise of the judgment is very beneficial in developing our sense of the beautiful. Little by little, unconsciously, perhaps, one learns to recognize the beautiful in art and in nature, thus gaining what may become a constant source of unalloyed pleasure.

It would be folly to say that habits of accurate observation can only be secured through the discipline afforded by a course in drawing; yet, this much may be said of it with perfect confidence: that it offers a most natural, easy, and direct means to such an end. It commands and holds the attention to "the one thing," and calls into action the very processes so essential to accuracy in observation.

RING WORM OF ANIMALS.

BY PROF. N. S. MAYO.

THIS disease is one most commonly observed in the spring of the year, though it is not as prevalent in Kansas as it is in other States farther north, where it is necessary to house stock more closely and for a longer period.

The term "ring worm" is a misnomer in that the cause of the disease is not animal, but vegetable in its nature. The disease commonly known as "ring worm" both in man and animals is due to the growth in the upper layer of the skin of a parasitic fungus (*Trychophyton tonsurans*, Malm) closely related to some of our common moulds.

This fungus is not confined to any particular animal. Horses, cattle, sheep, and dogs suffer from the disease, and it can be transmitted from one animal to another and to man as well, the spores of the fungus being carried from one place to another by harness, brushes, and other things which may have come in contact with an infected animal.

The symptoms of this disease are quite familiar to those who have handled stock. It usually appears towards spring, and attacks young animals in preference to old ones, especially those closely confined in damp, dark, and filthy stables, as these surroundings greatly favor the growth and development of the fungus. The disease may attack any portion of the body, but usually starts in the region of the head or neck, and gradually extends over the shoulders and along the back until the whole body is more or less affected.

Careful observation in the early stages of the disease will reveal small circles where the hair will be more erect than that adjoining, and on manipulation a thickening in the skin can be felt, corresponding to the circle. As the disease progresses, the hair in this circle drops off, and a crust of whitish scales remain. These circles are usually about the size of a silver quarter dollar, though they may extend and become confluent. Cases have

been reported where the affected areas were as large as plates.

In the earlier stages of the disease there is more or less itching, which causes the animal to rub against projecting objects, and the spores of the fungus are thus scattered in localities where other animals are likely to become infected. The itching exhibited has given rise to the term, "barn itch," which is applied to this disease in some localities. Human subjects will contract this disease from animals, by contact with the animal, or with infected blankets, harness, etc.

When animals are turned out to grass, the disease often disappears without treatment. It also yields readily to treatment. Tincture of iodine, turpentine, and soft soap rubbed well into the affected parts usually destroys the fungus in one or two applications. The disease is not very serious, and seldom causes loss, although it sometimes retards the proper growth of young animals. Prevention by good hygienic surroundings is much better than waiting until animals are infected.

This fungus, or a closely related species, occasionally attacks the manes and tails of horses and causes the hair to drop out. The same treatment as recommended is to be applied. When new hair starts to grow in the affected spots, it may be considered cured.

OUR NATIONAL FLAG.

BY PROF. EDWIN B. BOLTON,
[Captain 23d Infantry U. S. A.]

AT the outbreak of the war which resulted in the separation of the Colonies from their mother country, many of them rejected the flag of England by certain changes in color, or arms of the king, and adopting mottoes of their own, such as "qui transtulit sustinet," "An appeal to heaven," "Don't tread on me," "Join or die," etc. But pursuant to direction of the Continental Congress, a committee consisting of Dr. Franklin, Mr. Lynch, and Mr. Harrison met in the American Camp at Cambridge to consider the subject of a proper flag, and on January 1st, 1776, in honor of the organization of the new army, which consisted of only 9659 men, was first displayed the flag of the United Colonies. It was composed of seven red and six white stripes, with the red and white crosses of St. George and St. Andrew conjoined on a blue field in the corner, denoting the union of the Colonies, and was named "The Great Union Flag." This was the basis of our present national colors; but the flag for the United States was not adopted till some months after the Declaration of Independence.

On June 14th, 1777, Congress passed the following resolution, which was not made public until the third day of the next September: "Resolved, that the flag of the thirteen United States be thirteen stripes, alternate red and white, that the union be thirteen stars, white, in a blue field, representing a "new constellation." The "new constellation" which it was intended should be represented is supposed to be Lyra, which, in ancient times, was the symbol of harmony and unity among men. Red is an emblem of courage and fortitude; white, of purity, and blue, of constancy, love, and faith.

This flag was used at the surrender of Burgoyne, October 17, 1777. The first change in it was in 1794, when it was enacted by Congress in the following resolution, approved January 13th, 1794: "That from and after the 1st day of May, Anno Domini, one thousand seven hundred and ninety-five, the flag of the United States be fifteen stripes, alternate red and white, that the union be fifteen stars, white in a blue field." The battle of New Orleans was fought under this flag.

In 1818, Congress changed again by resolution,

which was approved April 4th, 1818, as follows: "That from and after the 4th day of July next, the flag of the United States be thirteen horizontal stripes, alternate red and white, that the union be twenty stars white on a blue field, and that on the admission of a new State into the Union, one star be added to the union of the flag; and that such addition shall take effect on the 4th day of July next succeeding such admission." General Scott conquered Mexico under this flag, and Lee surrendered to it at Appomattox.

Congressman Butler of Colorado introduced a bill in the 52nd Congress which contemplated arranging the stars in the union in such a manner as to appear like a pansy on the blue field. It failed to pass.

The custom of raising the flag on every schoolhouse is a good one, and ought to be encouraged. I suggest it be extended further, by arranging all the scholars in line as the last exercise of the day in pleasant weather, and have them raise their hats, or make some token of respect to the flag as it is lowered to be furled and put away for the night.

THE ODD MOMENTS.

BY MINNIE PINCOMB '96.

WE may perhaps all have odd moments which we waste because we do not know how to occupy them. We think, "Well, I can't accomplish anything in such a short time, so I'll not bother my head with trying to." But we should remember that every little helps.

Has there not, in the past been great things accomplished by constantly making use of the odd times? Some of our best presidents and statesmen gained their education by hard study during the odd moments of their youth. Do we not know the circumstances in which some of our poets have written a few sweet lines which have brought peace to many troubled minds? And have not some of the inventions of the past been the result of a thorough application of the mind at the odd times, sometimes for years.

But you say, "We cannot be inventors, and we have plenty of time in which to get an education." Well, may be you have, but there are many useful ways of employing a few moments. If we have a good book on the upper shelf of our book-case, a few moments could not be spent more wisely than in reading from it a few pages or even a few lines. A few sentences from one of the best writers may be of inestimable value to us in expressing our own thoughts, and in teaching us to think. There are odd moments in every one's life, and how can we be idle when the world is full of good literature which fills the mind with pure and ennobling thoughts? May we not learn in a short time many truths which, when they are ours, we would not exchange for rubies? For what are rubies compared with a mind well stored with elevating thoughts, and trained to eagerness for more?

But there are other ways of using the odd moments. As we are living for a purpose, each, no matter how weak, has a mission to perform. Some people live many years, or perhaps a whole lifetime, wasting many precious moments, and never seem to find that mission. May be we have a close neighbor who is a cripple or in some way disabled to enjoy the beauties of the outer world. Can we not take her flowers, and entertain her a few moments now and then? If we only knew how such a little deed would be appreciated, we might be more willing to make an effort to use our odd moments wisely and well. For it may be as a ray of sunshine in the darkness, or a "cup of cold water" to a thirsty traveler.

Corn meal, potatoes, and pork constitute the diet of the man who takes no agricultural paper.
—*Mirror and Farmer.*

HOW TO SPOIL A HORSE.

A bridge over a railroad track; a fine mettlesome horse hitched to a cutter containing a man; a locomotive and cars passed under the bridge; dense clouds of steam arose on either side. The horse, endowed with the instinct of self-preservation, made a vigorous, but not vicious, attempt to escape what no doubt seemed to him a deadly peril. In a few bounds he cleared the bridge; he had escaped; the steam, the rattle, and roar were things of the past; he came down to a lively trot, and in a few minutes would probably have forgotten the episode.

But the driver slowly released himself from encumbering wraps and grasped a cruel-looking whip; by this time the horse had gone in a highly acceptable manner fully a square, and totally unconscious of doing anything but his duty, but in escaping from danger and in now working faithfully. At that moment the cruel-looking whip cut the frosty air with a swish and raised a horrid welt on the now quivering flank of "man's" best dumb friend. Blow after blow followed in quick succession; the horse wildly plunging from side to side of the street, threatening to upset the cutter, which unfortunately he did not, all in the vain effort to escape a torture he could not understand.

What will be the result of that brutal torture? The horse must necessarily associate the subsequent torture with the roar and steam at the bridge; upon his next experience he will realize that he has a triple peril to escape: two on the bridge, the worst of all just beyond it. His efforts to escape all will result in a possible runaway and loss of life. In short, the real value of that horse was in a few minutes greatly reduced, for he is now much more unsafe than before. Will men never learn how to handle and treat the horse?—*Farm, Stock, and Home.*

THE FAIR AN EDUCATOR.

Lee Stretton, of Natal, South Africa, is at the Great Northern, in Chicago. He is an athletic young Englishman, and is as swarthy as a Hindoo. He is there to see the fair, and says, from what he has discovered in the two days he has been in Jackson Park, that six years will come nearer to the time that it would take to thoroughly "see" the fair, rather than six months. He finds, however, that people here figure on a few days instead of a few months in which to do what he intends to take six months to accomplish.

"Why," said he, "to look at that fair and to study and see everything there is better for a young man than years of college training. It beats traveling around the world, and a liberal education is assured to the man, woman, or child who will take the pains to look into all the exhibits and give each display a little time. I have traveled a long distance on purpose to see this fair, and I intend to see it all, if time, patience, and money will allow me to do so. I have no other mission in America, and when October is over expect to go back to Natal and devote several years of my life to thinking it all over and telling my less fortunate friends what it looked and sounded like."

PHONES FOR FARMERS.

An Iowa electrician has been studying the telephone problem, and has figured out what may happen when the patents on the telephone run out. "Just suppose," said he, "that you could buy a telephone for about what it is worth—from \$2.50 to \$3. You live on a farm near Epworth. You set the phone prepared with a ground wire, and then hitch the machine to the top wire of your barbed-wire fence running toward a wire already running through the country. If there are intervening farms, they too can attach until the line is reached, when the connections are made, and with a code of signals the system is perfected. Of course some pains must be taken to see that the fence wire is not grounded, but that would be easy. In this manner on the farms the system might be extended all over the country at comparatively no cost." He continued: "Inside of five years the increase in the use of this useful instrument will be doubled a hundred times, and the simplicity of methods that will be used in bringing it about will be the most astonishing part."—*Cedar Rapids Gazette.*

CALENDAR.

1892-93.
Fall Term—September 15th to December 23rd.
Winter Term—January 9th to March 31st.
Spring Term—April 3rd to June 14th.
June 14th, Commencement.
1893-94.
Fall Term—September 14th to December 22nd.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds *at par*. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address, until July 1st, T. P. Moore, Loan Commissioner, Holton, Kan.

LOCAL MATTERS.

The Alumni reunion and banquet will be held in the Drawing Room.

The hall well on the second floor of the Main Building is being closed.

Two thousand Commencement invitations will be issued the first of next week.

President Fairchild will occupy the pulpit at the Christian Church tomorrow evening.

The College gauge showed a rainfall of 2.9 inches for Thursday afternoon and night.

Mrs. Kedzie and Prof. Hood are in their places after a month's hard work on the College exhibit at the World's Fair.

"Key to Kansas Trees in their winter condition" is the title of a valuable eight-page pamphlet just published by Prof. Hitchcock.

The Horticultural Department has just completed an experimental series of grafts, 10,000 in number, with varying proportions of stock and scion.

Prof. Walters will lecture before the Young People's Society of Christian Endeavor at the Christian Church on next Thursday evening, with "Health and Wealth" as his subject.

Prof. Georgeson is hard at work on his report to the Department of Agriculture upon the dairy industry of Denmark. Miss Nellie Elliott, of Manhattan, is preparing the copy on the typewriter.

The finest specimen of *Spiraea Van Houttii* hereabout may be seen just south of Mechanics' Hall. It is seven feet tall and nine feet across, and fully sustains the reputation of the species for graceful habit.

Had the heavy hailstorm that visited the City on Thursday afternoon extended to the College, it is doubtful if a whole pane of glass would have been left in the greenhouse; as it was, a few straggling hailstones broke perhaps a half dozen lights.

The College Cadets made a good showing on Tuesday afternoon in the annual inspection, conducted by Col. Heyle, Inspector General on Gen. Miles' staff. Col. Heyle took the names of seven members of the Fourth-year Class who will be candidates for Second Lieutenant in the army.

Prof. Hood talked to the Chapel audience on Tuesday morning about his trip to the World's Fair. Although busy in the preparation of the College exhibit, he saw enough of the great show all about him to whet his appetite for the mid-summer visit to come. To miss the Exposition, the Professor thinks, is to miss the opportunity of a lifetime, and no student is so poor in this world's goods as to warrant him in staying away from this educational feast.

The Museum has received the following donations: From D. T. Davies, an albino prairie mole, (*Scalops argentatus*); from Mr. E. A. Wharton, a skin of a western porcupine, (*Erethizon epixanthus*); from Mr. Emerick, a ruby-throated humming-bird (*Trochilus Colubris*); from Mr. George Lyon, of Junction City, the skull of a least bittern (*Bataurus exilis*); from Secy. Graham, a leg of a mule-footed hog.

The following alumni have signified their intention of being present at the Alumni reunion and banquet on Commencement Day: '67—Mrs. E. H. Bowen. '72—Dr. S. W. Williston, Lawrence. '73—Sam Kimble. '75—R. E. Lofinck. '76—Mrs. N. S. Kedzie. '77—Ella S. Child, Holdredge, Neb.; Prof. G. H. Failyer; W. Ulrich. '79—H. C. Rushmore. '82—Warren Knaus, McPherson; Mattie Mails-Coons. '83—Mary Bower, Phoebe Haines, W. J. Griffing, J. Lund, Prof. J. T. Willard. '86—E. Ada Little,

Logan, Utah; E. H. Perry, Ada Qinby-Perry, Topeka; Minnie Reed. '87—C. M. Breese; John B. Brown, Nashville, Tenn.; M. A. Carlton; F. B. Elliott; F. A. Marlatt; Mary E. Moses; Geo. N. Thompson, Belmond, Iowa; W. M. Wright, Lake Arthur, La. '88—Abbie L. Marlatt, Logan, Utah; W. C. Moore, Junction City; Lora L. Waters. '89—J. W. Bayles; Sam S. Cobb, Wagoner, I. T.; J. S. Hazen, Des Moines, Iowa; A. B. Kimball; C. E. Freeman; Mary C. Lee; Susan W. Nichols, St. Joseph; Ida Turner-Bruce, Topeka; H. S. Willard, M. D. '90—John Davis, Wakefield; G. W. Dewey; C. J. Dobbs, Topeka; S. C. Harner, Lasita; Bertha S. Kimball; Harriet E. Knipe; Nellie P. Little; Prof. S. C. Mason; Julia R. Pearce; E. C. Pfuetze; H. N. Whitford; Marie B. Senn, Enterprise. '91—W. S. Arbuthnot, D. V. S., Bellville; H. W. Avery, Wakefield; R. J. Brock; F. C. Burtis; C. A. Campbell, Topeka; S. N. Chaffee, Lasita; E. C. Coburn, Kansas City, Kan.; Tina L. Coburn, Kansas City, Kan.; Christine Corlett; Mary E. Cottrell, Wabaunsee; T. C. Davis, Benedict; Amy M. Harrington, Junction City; Delpha M. Hoop; Mayme A. Houghton; Bessie B. Little; Nellie E. McDonald; D. C. McDowell, Emporia; A. K. Midgley, Minneapolis; Madeleine W. Milner; P. C. Milner, Horton; Lottie J. Short, Blue Rapids; Ben Skinner, Fairview; Caroline S. Stingley; Lillian A. St. John; E. C. Thayer, Lawrence; S. L. Van Blarcom, Kansas City, Kan.; Fannie E. Waugh, McPherson; Bertha Winchip; A. O. Wright, Jennings, La.; Effie J. Zimmerman, Troy. '92—Grace M. Clark; Geo. L. Clothier, Wabaunsee; Elizabeth Edwards; Harry Darnell, Earlton; John Frost, Blue Rapids; Effie Gilstrap, Chandler, Ok.; J. N. Harner, Lasita; J. W. A. Hartley; Kate Oldham-Sisson, Toronto, Ont.; D. H. Otis; R. S. Reed, Clements; A. D. Rice; Birdie E. Secrest, Randolph; May Secrest, Randolph; Fred C. Sears; Ruth T. Stokes; W. P. Tucker, Douglass; Mary Alice Vale; G. W. Wildin, Topeka. Wives and husbands who plan to accompany graduates bring the total to 116.

In response to an invitation from President and Mrs. Fairchild, the graduating class of '93 met at the President's for the usual social and party. Matching candies and conversation occupied the early part of the evening, after which refreshments were served. Music furnished by the class followed, but the climax was reached in the singing of the time-honored song, "Johnnie Smoker," by the President. At the close of the evening, in a few words, President Fairchild addressed the class, bringing to the minds of the Class of '93 for the first time serious thoughts of Commencement and the world which awaits them after.

GRADUATES AND STUDENTS.

Mayme Houghton, '91, visited her alma mater Tuesday.

C. P. Hartley, '92, goes to Frazier, Idaho, in a few days.

Collins McDowell, '91, returns from Emporia this evening.

A. B. Kimball, '89, will soon go to Montana to work on a ranch.

H. W. Avery, '91, greeted College friends and acquaintances Wednesday.

W. E. Trader, student last term, moves with his parents to Topeka next week.

Maddie Quintard, of Silver Lake, visited her sister Alice, Second-year, this week.

W. P. Gahan, Second-year in 1891-2, is clerking in Empie's drug store, Manhattan.

John V. Patten, Second-year, attended the Y. M. C. A. Convention at Clay Center last Saturday.

W. H. Phipps, Second-year, was called to his home in Chapman on Thursday by the death of his sister.

Ben Skinner, '91, of Fairview, will be the guest of D. C. McDowell, '91, during Commencement.

Marcus Krotzer, one of Manhattan's boys, graduated from the McCormick Seminary at Chicago, May 4th, and has been called as pastor of the Presbyterian Church at Manning, Iowa. He

was recently married at Murdock, Ohio, and with his wife is now visiting a week with the home folks.—*Manhattan Nationalist*.

Onie Hulett, Fourth-year, was detained from classes on account of sickness Monday.

R. B. Abbott, of Topeka, Second-year in 1891-2, visited his brother E. C., Fourth-year, over Sunday.

E. A. Donaven, Third-year, enjoyed a visit yesterday from his father, who is on his way to the World's Fair.

Tina Coburn, '91, and Madeleine Miller, '91, will be entertained by their friend Bertha Winchip, '91, during Commencement.

The University of California, at its Commencement exercises on May 17th, conferred the degree of Master of Science upon Lillie B. Bridgeman, '86.

J. W. Wilson, of Chicago, business manager of the *Farm, Field, and Fireside*, visited his daughter Olive, in Second-year classes, the first of the week.

Professors Waugh and Hutto, '91, of Oklahoma Agricultural College, regret that they cannot attend the Alumni Reunion on account of their own Commencement exercises June 16th.

Jane C. Tunnell, '89, having finished a year's work as Principal of the Manhattan High School, has gone to her home in Wichita for a few weeks, intending to return for Commencement exercises.

J. R. McNinch, Second-year in 1890-1, who for several months past has been engaged in missionary work at Magbele Station, Sierra Leone, West Africa, is on his way home, being expected in a few days.

Two College boys write of satisfaction with their situations at the World's Fair. C. S. Evans, Second-year last term, is employed in Guernsey barn No. 50, for the summer, and A. Jackson, Second-year in 1891-2, is a Columbian Guard.

J. G. Harbord, '86, Second Lieutenant Fifth Cavalry, stationed for a year past at Fort Reno, has been ordered to Fort McIntosh, Texas. He will return to Kansas September 1st, and enter the officers' military school at Fort Leavenworth for post-graduate study.

WANTED—THOROUGHBRED STEERS.

The Experiment Station at the College desires to buy or exchange for Shorthorns and Aberdeen-Angus cows and heifers, TEN THOROUGHBRED YEARLING STEERS, either Shorthorns Herefords, or both. Must be good individuals, and recorded or eligible to record. Also ten common native yearling steers, with but little or no improved blood in them. Address propositions to

PROF. C. C. GEORGESON,
Manhattan, Kansas.

COLLEGE ORGANIZATIONS.

May 20th.
The Webster Society was called to order at eight o'clock by President Pfuetze. After roll-call, I. A. Robertson led in prayer. The minutes of the previous meeting were then read and adopted. The programme of the evening was opened by an interesting essay entitled "A Naval Review," by F. H. Myers. Debate on the subject, "That the politics of our country as now conducted by the various parties, is the most demoralizing agent in our country," E. A. Eggleston and F. J. Smith supported the affirmative, and F. W. Ames and E. H. Webster the negative. The debate was good, and showed careful preparation on the part of the speakers. The Society was then highly entertained by a duet by Misses Mary and Amelia Pfuetze. Next on the programme was an essay by C. R. Pearson on "The Ostrich." T. W. Morse presented No. 4, Vol. 16 of the Webster Reporter. Motto, "Write Me a Piece for the Reporter." C. V. Wycoff discussed the subject "Hay Pressing," and A. B. Symms presented the news of the week. The Society then spent a profitable hour under unfinished and new business, and adjourned at 10:30.

F. R. J.

May 19th.
The Ionian Society was called to order by President Mudge at half-past two. After singing, Mary Lyman led in prayer. The programme was opened with an oration, "How shall we travel in one hundred years from now?" by Belle Frisbie. Extraneous speaking then followed. "Experience with a book agent" was related by Kate Pierce. Emma Finley spoke of her favorite author, Washington Irving. Laura Day gave a few minutes talk on "Current Literature." Nora Newell entertained the Society with a vocal solo. The Oracle was presented by Rena Helder. This was an excellent edition, and

proved the literary talent of the Ionians. An extemporaneous debate then followed: Question, "Should we feed tramps that come to our door?" The affirmative was ably discussed by Misses Dewey and Janes; the negative, by Sadie Stingley and Olive Wilson. The Society decided in favor of the affirmative. Piano solo by Ione Dewey was followed by a discussion, "Benefits to be obtained by visiting the World's Fair," by Stella Hougham. A vocal solo, " 'Tis the sorrow of loving to feel you will sometimes forget," by Rena Helder. The programme closed with an original poem by Edith Lantz. After a few items of business, report of Critic, and assignment of duties, the Society adjourned.

B. J. S.

May 20th.

The Hamiltons were called to order by Pres. Lyon. In the absence of those officers, C. Snyder was appointed Recording Secretary, and Mr. Trumbull, Marshal. Roll-call showed an unusually small attendance, as many of the boys were not back from the Fort in time to come to Society. Prayer by R. K. Farrar. Adoption of the minutes of the previous meeting. The programme of the evening was opened by a declamation, "The Stammering Wife," R. J. Barnett. The Question, "Resolved, that solitude rather than society is favorable to mental and moral development," was argued affirmatively by W. A. Painter and R. M. Phillbrook, in brief as follows: The contrast between the solitude of the farm and the busy whirl of society at Chicago and of the benefit to be derived from each would undoubtedly be in favor of the former, for though we might get a great amount of food for mental development at the fair, it would require solitude to enable us to assimilate it, and every one will surely admit that the morale of a person would be far more likely to suffer in the city; almost all great writers and thinkers were men who rather shunned society; Pitt, for example, was always under a private tutor till about the time he entered the House of Commons. W. E. Hardy and H. T. Vannatten, for the negative, claimed that the life of a farmer was far from what they would consider one of solitude; that all a person could learn in the solitude of his room in a lifetime would be of no benefit to him if he did not mingle with his fellow men and learn to apply his acquired knowledge; a great part of a man's education is to learn how to conduct himself properly in society. Judges Lesley, Pincomb, and Farrar decided two to one in favor of the negative. Next was a well-read selection from Josh Billings, on "Courting," by C. D. Pincomb. W. O. Staver presented one of the best editions of the Recorder we have had this year; motto, "We should so live that when we mysteriously disappear our friends will not be too uproariously glad." Recess. Music, accordian solo, by J. R. Eichar, was heartily encored. Under unfinished business, a very interesting trial was decided. New business, report of Critic, and assignment of duties occupied the time of the Society till 10:30 P. M. Adjournment.

R. J. B.

FARM NOTES FROM VARIOUS SOURCES.

Your hogs, says Prof. D. Kent, of Iowa, should have a mud-proof, dust-proof, rat-proof, and stink-proof floor, on which to eat and sleep. Then you have largely eliminated the cause of throat and lung diseases.

Every man is supposed to know his own business; the weak spots on his farm and in his fences; and what his harness, wagons, machinery, and implements need in the way of repairs, etc. Forewarning is forearmed.—*Colman's Rural World*.

Until the rank and file of farmers can take a broader view of men and conditions their influence will be circumscribed, and they cannot make the progress they might nor achieve the success they might, which is their natural birthright.—*Our Grange Homes*.

Keep well in mind the fact that by increasing the yield per acre you lessen the cost of production. You do not have to double the crop to double the profit, as is the case where you double the amount of land in order to accomplish the same result.—*Colman's Rural World*.

The minister's boy cannot preach; the lawyer's boy cannot argue before the jury; the doctor's cannot prescribe for the sick; the editor's cannot write leaders. The farmer's boy can walk side by side with his father and share equal honors with him.—*Orange Judd Farmer*.

God designed that men and women should be healthy and happy. The farm home gives the best chance for this to be found on earth. Working always under cover, in office or store or factory, as they are generally found, is not conducive to the most perfect health.—*Prairie Farmer*.

In any moment of sensual excitement, which is always possible, the bull's whole nature is changed and he is a wild beast, as ferocious as an untamed tiger, and thirsts for something to vent his temper on. It is always the petted bull which is to be feared. All bulls should be kept in subjection by acquaintance with a rawhide; a smart stroke on the nose does no hurt, but the temporary sting is never forgotten.—*American Dairyman*.

Unless a farmer can grow better seed than he can get of reputable seed dealers, he had better buy all the seed for his garden. The few he requires will not cost much, and if he can know that they are grown apart from other plants of closely related varieties, the bought seeds will be

more than enough better to offset the extra outlay of money; yet we have seen farmers buy a fine watermelon and carefully save the seed, only to find next year that the seed was so contaminated as to be worse than worthless. This is one of the cases where the cost of good seed pays more than a hundredfold in profit.—*The Farmers' Home Weekly*.

A harrow comes pretty near being all the implement needed for potato culture. Plant deep and then harrow frequently, paying no attention to rows or to the young plants when they come up. Keep on harrowing until the plants are six inches high and there will not need be much more cultivation.—*Western Farmer and Stockman*.

Every thing in nature works for the skillful and careful man. This is only our inheritance given to us from the first, and experience proves it every day. All the forces of nature, all the habits of plants and animals, all things great and small (and the latter in effect are as great as the greatest), are subject to man, to whom dominion over them was given.

To the right kind of a man, the insects, fungus, blights, untimely frosts and droughts are but blessings in disguise; they make it more and more difficult every year for an ignorant or idle or careless man to make a living, and place a constantly increasing premium in the shape of good prices in the market, upon the care, knowledge, and skill required to produce the best crops of our staple products and delicate fruits.—*Massachusetts Ploughman*.

Americans pretend to be the smartest people on the globe, yet they are still groveling in the dark ages on the road question. We make wagons with tires that cut up the roads and drag the horses to death to pull them through the ruts. In France they do things differently. The French law requires that tires of all wagons shall be six inches wide, and in four-wheeled wagons the front axle is six inches shorter than the rear axle, thus making a roller two feet wide out of every wagon. Such wagons do almost as much towards improving the roads as the graders themselves, and are much easier on the teams. In that country a horse is expected to pull from two to three tons, at least twice as much as he could haul on our roads.—*Colman's Rural World*.

The working capacity of the horse depends not a little upon the harness he wears. If his collar is ill-fitting, producing galls, he will not pull as steadily and squarely as if he had whole shoulders, and the pain, affecting first the nervous organization, leads to general derangement, and the animal becomes incapable of doing full work. One should not buy a collar without fitting it to the horse. Take the horse with you to the harness shop. No two horses have shoulders exactly alike; in fact, the two shoulders of the same horse are not exactly alike. Hence, it is by mere chance if a decent fit is obtained without having the horse along.—*The Farmers' Home Weekly*.

One of the best things that can happen to a farming community that is behind the times is for a progressive farmer to move in. Every improved method of farming that he brings with him is sure to attract attention—more attention, in fact, than some radical improvement made by one of the old residents. The new-comer's farming operations will be watched closely and talked about. If his methods are notably successful, they will be adopted more or less by his neighbors, and the farming of the whole community be bettered. If he sets a good example, it is sure to have a good effect on the community, slow-going as it may be.—*Farm and Fireside*.

One error that farmers fall into is in education of the boys. Every boy should be fitted for the work he has to do, but he is not. When we begin to make a minister, a lawyer, or a doctor, we send the boy to the public school, academy, college, or university, where he is made to spend four or five years, to be followed with two to four more in the school or medical college, before beginning his life work; but when we want to make a farmer, we take the dullest boy we have, give him but little or no education, get him out of bed at four o'clock in the morning, work him till dark, and never give him any share of what he helps to produce. The day is dawning that shall witness the farmer boy as well educated, standing as high in his chosen profession, and as much respected by the world at large as is the best professional man in the land.—*J. V. Powell*.

THOROUGHBRED CATTLE

FOR SALE

The Farm Department of the College offers to sell some HIGH-BRED ANIMALS, including several

Shorthorn Cows

Shorthorn Heifers

two Shorthorn Bulls

A Fine Young

Hereford Cow

An Aberdeen-Angus

Bull Calf

And some Heifers of the same Breed

Intending buyers are cordially invited to come and see them. PRICES WILL BE LOW, to suit the times. For further information concerning them, address

PROF. C. C. GEORGESON,
Manhattan, Kansas.

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R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc. '75.

VARNEY'S BOOKSTORE.—Popular Head-quarters for College Text-Books and Supplies. Second-Hand Books often as good as new. Call when down town. Always glad to see you.

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J. Q. A. SHELDON, "the Jeweler." Established in 1867. Watches, Clocks, and Jewelry repaired. Eames Block.

R. E. LOFINCK keeps a big stock of Watches, Clocks, Jewelry, and Gold Spectacles, also Musical Instruments. '75.

K. SHAW, Jeweler and Optician. Watches, Jewelry, Silver-ware, Spectacles, Clocks, Fountain Pens, Gold, Pens, etc. Repairing of Watches, Clocks, Spectacles, and Jewelry done promptly and skillfully. A written guarantee given with all warranted watch work. 308 Poyntz Ave.

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W. C. JOHNSTON, Druggist. A large line of Toilet Articles and Fancy Goods. The patronage of students is solicited.

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A. J. WHITFORD sells Stoves and Hardware at very low prices, and carries a large stock from which selections may be made. Student patronage respectfully invited.

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D. R. G. A. CRISE, Dentist, 321 Poyntz Ave. The preservation of the natural Teeth a Specialty.

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D. DEWEY, the photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue.

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Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

THE RELATION OF EDUCATION TO POLITICS.

BY W. O. STAVER, '94.

THE intelligence with which the people considered the issues during previous political campaigns, the precision of judgment they manifest in their decisions, and the grave and important questions that are to be settled in the near future, bring to one's mind the dependence of political affairs upon our education.

It has not been long since the highest idea entertained concerning education was what is often called the "cramming system." The mind was nothing more than a mental store-house. The student's progress was measured by the number of dry facts that he would remember. The teacher's efforts were spent only in developing the memory. The growth and related activity of the mind, systematized instruction, and adaptation of methods to the special want of each student were never considered.

This absurd idea has been credited to the past, and we are now entering into a new era of educational philosophy and training. The clouds have been scattered, the barriers removed, the obstacles overcome, and the light of the "natural sun" shed upon us. True educators now see more in education than the gathering of so many facts. They aim at physical culture, mental discipline, and moral development as the best way of educating mankind. They intend to prepare man for the active duties of life, the development of a true man.

The most important duty of man, after his fidelity to God and family, is that of a citizen. Since this duty is so great, and the ideal aim of education is the preparation of man for these various duties of life, it is undoubtedly the teacher's part to qualify the student for grasping the many political problems which constantly arise in the growth and development of any great nation. To lack attention in this important branch of education is a serious defect. To graduate the student without having made this an important part of his education is to place him in the world as a statue rather than an active human being.

This study should constitute a knowledge of the inward and outward virtues and vices of mankind. A conception of the physical, mental, and moral powers in their related dependence, as well as an understanding of man's aims and desires together with the relations of different occupations which constitute the underlying principles of Political Economy.

All the different technicalities relating to politics need be taught the student. These he will acquire as he studies politics after graduation; but he can be so instructed as to enable him to detect the fallacious doctrines and the errors in argument frequently resorted to by the demagogues as readily as those in grammar or arithmetic. Thus train the youth of America, and any such ideas as that some threatening evil must prevail will be eradicated.

Although this is a grand and magnificent country, controlled by the noblest principles of morality, it is a great experiment in self government, or a government for the people and by the people. It has succeeded in defending itself against all enemies for more than a century. But this is a short time for a nation to prove her prosperity.

The first colonists of this country were of homogeneous descent. Throwing off the oppressive yoke of their mother country, they established a government for the people which was easy to support as long as the people were of the same

descent. We have followed the noble impulse upon which our nation was founded, and have invited the oppressed from all countries to our free and independent land. So now we are a people of very diverse manners, customs, habits, and ideas, over whom the maintenance of a free government is no easy task. It has very successfully stood one great attempt at annihilation. Although it will perhaps never again be called upon to deal with such a crisis, the state and strength of its future will depend upon the ability, the strength, the merit, and the virtue of the citizens, which will in turn depend upon the excellency of our schools and colleges.

CANNED JUICES FOR JELLIES.

BY JOSEPHINE M. HARPER.

THE poet sings of the perfect days of June, of their beauty and pleasure; but they are of no real benefit unless we can in some measure enjoy them. As these bright June days come and go, each brings its own cares and duties that cannot be neglected. The less perfect days of July and August are even more crowded with work than the preceding ones of June. No one feels this crowding of work during these busy months more than the housewife who does her own work, and upon whom the comfort, health, and happiness of the family depend.

A large share of the work that occupies the housewife during the long, hot, enervating days of summer is the canning and preserving of various fruits in one form or another for the family use in winter. The greater part of this storing away of fruit can be done only at the time of the maturing of the different fruits. One part can be postponed till the cool days of autumn and the colder days of winter, when a fire is a necessity, and the standing by the stove watching the preserve kettle does not at the same time make the blood in the veins of the watcher boil with the same rapidity as the liquid in the kettle. The preparing of that dainty, jelly enjoyed by all, requires time, patience, and the greatest care, if it has, when finished, the delicate flavor and right quivering consistency, and is tiresome work when the thermometer stands 102° in the shade.

To prepare the juice for the jelly is not so difficult nor so tiresome a task as to make the jelly itself. The fruit can be picked in the cool of the evening, and cooked while preparing the evening meal, poured into the jelly bag, and allowed to drip during the night. In the morning, place in a preserve kettle, let come to a boil, and can the same as fruit, but without sugar; when cold, label and put away for winter use.

When ready to make the jelly, place a pint of the liquid in a flat-bottom dish, place on a hot stove, put the sugar in the oven to dry, and when the juice has boiled five minutes, put in the sugar, boil again, and pour into glasses.

Making jelly in this way ensures a good quality any time of the year, and there is no trouble with mould or crystals, as is often the case with grape jelly. The juice will keep any length of time—is just as good at the end of the year as when first put up, while the year-old jelly is poor eating at best.

Another advantage in canning the juice instead of making it into jelly is that in years when fruit is plenty a quantity can be put up against a possible failure of the fruit crop the following year, and if not needed for jelly, it makes a delicious drink on a hot day when mixed with water and sugar.

By a little arrangement of the work in this way the housekeeper can secure a day's outing now and then during the summer and not deprive the family of any needed comfort.

THE ART OF CAKE MAKING.

BY IDA PAPE, '94.

HOW often are we asked by a friend or neighbor if we know how to make a good cake, if we have received a training at this College, or any other good place of learning. Of course we answer "yes," and further remark that we have a very good recipe, and if they wish us to, we will give them a copy. If after a few days we meet that friend, the first thing she says to us is, "Did you ever make a good cake using that recipe? If you did I wish you would teach me how." If after consenting to do so you happen to inquire further into the matter, to your surprise you find that the sugar and butter were not creamed enough, and even that lard, or something of that kind, was used instead of the butter; or she may say "I used half butter and half lard, as I thought these might do just as well as all butter." After you have fully explained the reason of her failure on this account, you question "You followed out the recipe fully otherwise did you?" "Yes, I was very careful to measure everything correctly." But at last you will find that several different cups, holding different amounts, have been used in measuring. Now with all these defects, is it any wonder that the failure was as great as it was?

Cake making, as that of any pastry, needs very close attention in measuring the various ingredients and in the putting together of the same.

If we will only pay close attention to the directions, and will not be too hasty in making remarks about the goodness of the recipe, and think "If you the first time don't succeed, try, try again," I assure you that by constant practice we may by and be professional cake bakers.

SCIENTIFIC CLUB.

May 26th.

President Willard called the Scientific Club to order. Minutes of last meeting were read, corrected, and approved.

Miss Reed talked of mosses, briefly sketching the study of early bryologists and their peculiar notions of the floral organs of these small plants, and mentioning the leading bryologists of Europe and America at the present time, and the progress of their work. She also gave the names of the few Kansas moss collectors. The first list of Kansas mosses, published in the Washburn College Bulletin, 1886, gave only twenty-four species, while the last list published gives 160 species. One new species has been reported from this country, and named by Mrs. Britton, *Physcomitrium Kellermannii*, in honor of Prof. Kellerman, the first one to collect it. The parts and many variations of mosses were explained from illustrations on the blackboard.

Under voluntary reports, Prof. Hitchcock offered some notes on myrmecophilism in sweet potatoes, in which ants are fed on honey secreted in depressions on the lower part of the base of petioles, and which in turn are protected by the presence of the ants.

Prof. Mayo mentioned the fact of a pocket gopher's using his pockets in connection with his shoulders as a shovel, as well as for carrying material.

Prof. Willard gave the method by which Maisson has been able to produce artificial diamonds through the use of his new electrical furnace. Adjournment. GRACE M. CLARK, Sec'y pro tem.

A successful farmer should discover what materials a plant feeds on and what plant food is in the soil. Such knowledge as this comes not to us by nature, but by most careful study, and we are coming to realize that the farmer must be a student as well as the honorable and honored "honest-hand-ed son of toil."—*Farmers' Home Weekly*.

DOES FARMING PAY?

It depends upon the farmer whether or not farming can be made a financial success. With the ability to labor with head and hands, energy and ambition such as possessed by those successful in other occupations, farming can be made to pay. To the casual observer, this rural occupation appears to be a business which any one can run, but it is a sad mistake, as many already too well know. The difficulty is that too many are farmers that should not be, for the great reason that they are not good managers. A man goes out into the field and labors hard, puts in an immense crop, but the harvest will not pay the cost of the work. Next year the same thing is repeated, with like results. His neighbor does the same, but makes a profit. Some one exclaims it is luck. It is just this: One goes about his work without any plan or forethought. Whether the soil is adapted to this or that, the first in mind goes in. As he always has done, so he does now. Wet or dry soil, rich or otherwise, he puts in the same amount of seed at the habitual depth. The successful man looks over the ground carefully, and, after much thought and study, puts in the right crop in the right manner. He varies the quantity of seed and depth of putting it in according to the wetness of the soil. In other words, the successful neighbor does his farming with as much care and study as the banker or merchant does his work. Success is what you make it. When a farm is managed with as much pains as required in other business, it will pay.—*Correspondent Mirror and Farmer*.

FOOD ADULTERATION.

According to recent investigations by the Department of Agriculture, extensive adulterations of coffee still continue.

"Coffee is slow poison—the slowest known," said the inimitable Artemus Ward; but his statement is not as humorous now as when he made it. The chromate of lead and some of the other dye-stuffs used in facing inferior coffees to make them imitate superior grades are poisons, and dangerous articles to use in foods and beverages.

Poisonous adulteration, however, is not as extensive as non-poisonous. The object of the adulterators is to rob consumers, not to poison them, though they do not hesitate to do the latter in order to accomplish the former.

Consumers must keep on their guard constantly. It is not what has been done in the way of adulterating foods in the past, but what is being done now every day that concerns them.

Look at the chemist's report for one day to the Ohio food and dairy commissioner, of analysis of foods sold by Cincinnati dealers. The list includes coffee, consisting entirely of barley, malted, roasted, and ground; maple syrup, mixed one third to two thirds with glucose; butter, nine tenths foreign fat artificially colored; sweet-oil adulterated with cotton-seed oil; and vinegar mixed and colored contrary to law. Consumers, protect yourselves.—*Farm and Fireside*.

Will any particular system of feeding surely produce tender beef with a desirable flavor? My experience is, and observation confirms me in the belief, that pasturage supplemented by a daily ration of about 5 lbs. cornmeal and from 10 to 20 lbs. of some kind of vegetable, as potatoes, beets, turnips, or even apples, will produce—what would otherwise be tough and undesirable—a very tender, good-flavored, and fair quality of meat. It will take about two months of such feeding to secure this result with an animal of average flesh.—*B. B. Moon, in New York Tribune*.

The farm needs for its work stout, chunky, "low-down" horses, that can draw fair loads and move with some facility and agility. The fast walker is a great treasure where loads preclude for the most part the possibility of trotting much.—*Our Grange Homes*.

Our agricultural colleges with their experiment stations are doing much to assist and enlighten the farmers upon many subjects relating to production in farm and fruit culture.—*The Western Rural and American Stockman*.

KANSAS EDUCATIONAL NOTES

BY PROF. J. D. WALTERS.

The Hutchinson High School graduates ten boys and thirteen girls this year.

General J. C. Caldwell, of Topeka, has consented to deliver the annual address before the literary societies of Winfield College.

At the examination of County School Graduates March 25th, in Reno County, forty-nine of one hundred and thirty candidates passed.

Miss Cora Miller of district No. 67, Reno county, missed but one day of school in four years, notwithstanding she lives two miles from the schoolhouse.

The Young school, about four miles south of Lecompton, has the smallest building and the largest flag in Douglas County. The flag is 7½ by 12 feet in size, and flies from a 50-foot pole.

The Washburn College *Argo-Reporter* says: "There is no college on earth which an athletic boom would help more than Washburn." What difference would it have made if the editor had used the word *less* instead of *more*?

Superintendent S. T. Walker, of the Kansas Institution for the Deaf and Dumb has prepared a historical sketch of that school. The pamphlet contains a number of good photoprints, and about twenty-six pages of interesting reading matter. The printing was done by the pupils, and is very creditable.

Greek-letter fraternities may have their benefits and no doubt do, but it cannot be denied that they are responsible for a great deal of unpleasantness and many misdemeanors among college students. The savage conduct of the young men at the Ohio Wesleyan University, who branded four members of a rival society with nitrate of silver and marred their appearance for life, seems to be traceable to a fraternity feud. The malefactors were expelled from the school, and will probably go to the penitentiary. There is certainly something wrong with a school that will permit affairs to come to such a crisis before interfering, and the management justly deserves to be censured.—*Holton Informer*.

At a recent meeting of the State Board of Education, a change was made in the requirements for appointment as institute conductors and instructors. A candidate for conductor must be twenty-five years of age and have had five years' experience in teaching, two of which must have been in Kansas. He must either have had one year's experience as a conductor, or be a graduate of the University, the State Normal, the Agricultural College, or some school approved by the Board. The candidate for instructor is subject to the same requirements, except that he need be only twenty-three years of age and have had two years' experience in teaching, one of which must have been in Kansas.—*Western School Journal*.

"PRACTICAL" PEOPLE.

A correspondent of the *Dairy Messenger* writes as follows of the "practical" fad. His words apply to many other pursuits than dairying. He says:—

"There is a tendency among the boys to carry that word 'practical' as a shield to protect themselves against the necessity of brain work. 'We don't care about the theories,' they say, 'we are practical butter makers'; and so they go on in the same old rut. Yet the practical butter-makers of today would have been deemed theoretical fools if they some twenty years ago had talked about centrifugal creaming; aye, even if they in some places had talked about using a thermometer! The good old lady would have said: 'I don't care for new-fangled notions, I use my fingers; I am a practical butter maker.' And so some of those who ride in a highly 'practical' manner in the railroad cars once denounced the inventors as theoretical fools. The devil never invented a finer breast work against progress and civilization than the word 'practical,' misused and twisted in as it is by all of us, more or less. If we hear a lecture which is too deep for our own limited conception we excuse our own ignorance by saying, 'Well, he lectured pretty well, but he is not practical.'"

CALENDAR.

1892-93.

Fall Term—September 15th to December 23rd.
 Winter Term—January 9th to March 31st.
 Spring Term—April 3rd to June 14th.
 June 14th, Commencement.
 1893-94.
 Fall Term—September 14th to December 22nd.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds *at par*. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address, until July 1st, T. P. Moore, Loan Commissioner, Holton, Kan.

LOCAL MATTERS.

There were no College exercises Decoration Day.

Board meeting Tuesday morning, June 13th, at nine o'clock.

Prof. Robert Hay made a brief visit to the College on Thursday afternoon.

The College Cadets took part in Decoration Day exercises under the direction of Lew Gove Post G. A. R.

Mrs. Agnes Fairchild-Kirshner returned to her home in Kansas City Saturday, after making her parents a visit of three weeks.

The Secretary of the Alumni Association has received notice from four more graduates of their intention to be present at Commencement.

Regent Secrest spent Thursday morning at the College in consultation with President Fairchild as to needed repairs provided for by the law just published in the Statutes.

The Committee on Music for Memorial Day—Prof. Brown—was assisted by Rena Helder, Maude H. Parker, and Jennie Smith, all members of the Third-year Class.

A recent army order notes the appointment of Lieut. Morrison, Twentieth Infantry, as Regimental Quartermaster at Fort Assinaboine. The Lieutenant will not, therefore, remove to Fort Leavenworth, as planned.

Pres. Fairchild and Prof. Lantz were in consultation with the State Architect on Wednesday afternoon in Topeka as to the general arrangement of the new Library. The architect expects to have all plans completed before the 20th of June.

The annual ball game between Fourth-years and Faculty is set for next Friday. With "the Smiths" and "Big Abbott" and other good players opposed to them, the Faculty club's prospects for victory are almost lost sight of in the hazy atmosphere that prevails.

The walls of the Veterinary lecture room are rendered more attractive by two fine pictures of Honor and Senator Updegraff which were presented by O. P. Updegraff of Topeka. These are excellent representatives of the American trotter, owned by a leading breeder of Kansas.

Dr. Mayo talked entertainingly yesterday afternoon about his alma mater, the Michigan Agricultural College, after which institution most of the successful agricultural colleges of this country are modeled. The description of grounds and buildings was illustrated by ninety-five lantern slides.

A beautiful evening was that of the 29th, the date of the Spring Term social. The Chapel was filled at an early hour, and until about half past nine the audience was entertained by the athletic clubs of both sexes in an interesting programme. Social small talk occupied the remainder of the evening until the bell sounded the signal for departure.

The Faculty and their wives are indebted to Prof. and Mrs. Lantz for a very pleasant social gathering at their home last evening. A profusion of beautiful roses greeted the gentlemen, each of whom wore his bouquet for half an hour or longer ignorant of the fact that some lady owned the mate to it. The roses matched, refreshments followed, and the hour for leaving—a late one, at that—came all too soon.

The Third-year and First-year ball clubs met on the diamond Tuesday forenoon in a hot contest. The First-years were victorious by a score of 16 to 10. The Second-years and First-years

crossed bats yesterday afternoon, and played an even game for three innings, when the Second-years gained a big lead which they kept to the end, the score being 22 to 9. A game will no doubt soon be arranged for between Fourth-years and Second-years.

On the evening of May 26th, Prof. and Mrs. Georgeson entertained the members of the Agriculture and Dairy Classes at their home. Among the many entertaining features of the evening was a phonograph, to which all listened with interest. All were pleased with the music the orchestra afforded. Refreshments were served, after which autographs were written on Chinese napkins, and conversation was indulged in till time for leaving arrived, when all departed, thanking Prof. and Mrs. Georgeson for the pleasant evening they had so kindly afforded.

Last Tuesday evening will be one of pleasant remembrance to all those who attended the Fourth-year party, given at the home of Edith McDowell. Owing to the inclemency of the weather, only seven of the class found food and shelter, intermingled with chunks of fun. The night, though gloomy without, was spirited and gay within, and the hospitable family made everyone feel perfectly at home—an essential to a good time. Various means of entertainment, sandwiched with refreshments, made the evening pass too soon. All retreated with gay hearts, and feeling that if one wants a good time he should never miss the opportunity of calling at the McDowell home.

GRADUATES AND STUDENTS

Alta Lee, First-year in 1891-2, attended Chapel exercises Friday.

G. B. Norris drops out of First-year classes on account of weak eyes.

Susie Long, First-year, visited in Blue Rapids from Friday until Sunday.

John Grant, of Ellinwood, Third-year in 1887-8, visited College friends last week.

Sam Kimble, '93, delivered the Memorial Day address at Council Grove on Tuesday.

Flora E. Weist, '91, writes of a successful term's teaching near Point View, Pawnee County.

Dora Thompson, Third-year last fall, will be present at Commencement exercises.

Ben Skinner, '91, is among the applicants for a State certificate under the new law.

Susie and Ella Noyes are called home today by news that their father is not expected to live.

M. V. Hester, Third-year, was a delegate to the Y. P. S. C. E. convention at Hutchinson last week.

Lucy Davidson, Second-year in 1889-90, will spend Commencement with her friend Laura Day, Fourth-year.

Lillian St. John, '91, will visit with Mrs. Barnes and attend the Commencement exercises of her alma mater.

T. E. Lyon, Fourth-year, was absent from classes Wednesday and Thursday on account of sickness.

F. J. Smith, Second-year, took advantage of the holiday to visit his parents at Iwacura the first of the week.

Thomas Bassler, '85, writes from Geuda Springs introducing a young man who, with a brother, will attend College next year.

F. W. Bevington, Second-year in 1881-2, is appointed Postmaster at Jewell City to fill vacancy created by the removal of Mr. E. D. Smith.

K. C. Davis, '91, has been re-elected Principal of the Austin (Minn.) Schools, with increased salary. He cannot visit his alma mater this year, but hopes to greet his friends at Chicago in July.

T. C. Davis, '92, of Benedict, is with College friends until Commencement. He is the first of the Alumni to arrive, and must have scented the banquet from afar off. He will busy himself in perfecting his plans for a corn harvester.

As was noted last week, C. P. Hartley, '92, who for several months was confined to his room, has so far recovered as to visit an uncle in Fra-

sier, Idaho, in the hope of gaining strength. His mother, brother, and sister wish to thank friends and classmates for their kindness during the illness of their son and brother.

Ada Baxter, Agnes Baxter, Ida Anderson, Myrtle Coulman, Jessie Minnis, Hattie Esdon, and Ada Van Gaasbeck, all First-year students, drop out of College to attend the teachers' institute.

H. W. Jones, '88, visited a few days at College this week after a year's work as Principal of the Alma Schools, which position he will occupy next year. On June 5th he begins work as instructor in the Council Grove teacher's institute.

COMMENCEMENT WEEK, 1893.

FRIDAY, JUNE 9.

Address before the Literary Societies at 8 p. m., by Dr. P. S. Henson, of Chicago.

SUNDAY, JUNE 11.

Baccalaureate Sermon at 4 p. m., by President Fairchild.

MONDAY, JUNE 12.

Examinations from 8:50 A. M. to 3:10 P. M.

TUESDAY, JUNE 13.

Examinations from 8:50 A. M. to 12:10 P. M. Class Day Exercises, for invited guests of Class of '93, at 3:30 P. M.

Address before the Alumni Association at 8 p. m., by Dr. S. W. Williston (Class of '72), Kansas State University, Lawrence.

WEDNESDAY, JUNE 14, COMMENCEMENT DAY.

Graduating Exercises at 10 A. M.

Military Drill at 4:00 P. M.

Alumni Reunion and Banquet at 8 p. m.

Public conveyance to and from the College in connection with all exercises.

Dinner on Wednesday, served in the Armory Hall, by the ladies of the Presbyterian Church of Manhattan.

THE WEATHER FOR MAY.

BY PROF. E. R. NICHOLS.

Temperature.—The mean temperature for May, 1893, was 60.85° , which is 3.05° below normal. There have been nine cooler Mays and twenty-six warmer during the last thirty-six years, the extremes being 70.40° in 1880 and 57.83° in 1892. The maximum temperature was 91° , on the 20th and 24th; the minimum, 31° , on the 2nd—a monthly range of 60° . The greatest range for one day was 45° , on the 20th; the least, 6° , on the 7th. The warmest day was the 10th, the mean being 76° ; the coolest, the 1st, the mean being 43° . The mean of the observations at 7 A. M. was 55.23° ; at 2 P. M., 71.19° ; at 9 P. M., 58.48° . The mean of the maximum was 75.42° ; of the minimum, 47.32° ; the mean of these two being 61.87° . There were light frosts on the mornings of the 1st, 2nd, and 23rd.

Barometer.—The mean pressure for the month was 28.774 inches, which is $.05$ inch above the mean for twenty-two years. The maximum pressure was 29.054 inches, at 7 A. M. on the 16th; the minimum, 28.249 inches, at 7 A. M., on the 22nd—a monthly range of $.805$ inch.

Relative Humidity.—The relative humidity for the month was 73.83 ; at 7 A. M., 79.89 ; at 2 P. M., 63.03 ; and at 9 P. M., 87.58 .

Cloudiness.—There were two days entirely cloudy, two five-sixths cloudy, three one-half cloudy, five one-third cloudy, four one-sixth cloudy, and twelve clear. The per cent of cloudiness was 31, which is 16 below normal.

Rainfall.—The total rainfall for the month was 5.73 inches, which is $.66$ inches above normal. There have been six Mays with more rainfall and twenty-eight with less, the extremes being 9.42 inches in 1859 and $.91$ inches in 1879. Rain fell in measurable quantities on the 4th, 7th-8th, 9th, 11th, 21st, 25th, 26th, 30th, and 31st. A few hailstones fell on the 21st and 30th, and a large hailstorm from 3:05 to 3:10 P. M. on the 25th, some of the stones measuring two inches the largest diameter. The storm did but little damage, it being accompanied by a light wind.

Wind.—The wind was from the south sixteen times; northeast and northwest thirteen times; north ten times; southwest eight times; east six times; southeast and west four times; and a calm nineteen times. The total run of wind was $9,193$ miles giving a mean daily velocity of 296.54 miles and a mean hourly velocity of 12.55 .

miles. The maximum daily velocity was 597 miles, on the 22nd; the minimum, 98 miles, on 17th. The maximum hourly velocity was 41 miles, from 9 to 10 A. M. on the 22nd.

Below will be found a comparison with the preceding Mays:—

May.	Number of rains.	Percent Cloudiness.	Prevailing Wind.	Mean Temperature.	Minimum Temperature.	Maximum Barometer.	Mean Barometer.	Minimum Barometer.
1858	12	5.12	SW	59.95	91	39		
1859	12	9.42	50	65.61	88	42		
1860	3	1.13	27	69.10	97	30		
1861	8	3.76	46	64.46	90	42		
1862	8	3.18	30	N	65.38	89	46	
1863	4	3.13	25	S	68.80	91	48	
1864	6	2.29	41	SW	64.80	89	35	
1865	6	2.04	...	S	67.16	90	32	
1866	7	2.83	42	SW	62.19	90	45	
1867	7	3.59	44	N	58.73	93	41	
1868	3	1.83	31	S	66.08	88	50	
1869	8	1.12	41	NW	59.11	88	45	28.30
1870	5	1.91	44	SE	67.63	93	49	28.73
1871	7	5.07	54	SE	65.05	88	45	29.00
1872	11	6.81	59	SW	58.99	90	30	28.40
1873	10	8.54	61	SE	61.84	86	44	28.30
1874	7	2.98	49	SW	68.88	93	40	28.77
1875	10	2.46	51	SW	64.15	98	29	28.71
1876	7	5.73	52	SW	63.84	86	34	28.20
1877	13	5.20	70	SW	64.16	84	31	28.66
1878	11	4.06	62	SW	62.02	85	34	28.66
1879	7	1.79	49	S	68.58	93	40	28.56
1880	6	3.74	40	S	70.40	94	44	28.56
1881	14	6.67	65	SE	68.25	87	46	28.59
1882	8	5.20	64	NW	58.35	86	36	28.59
1883	11	4.83	54	SW	60.74	90	37	28.57
1884	5	4.63	42	SW	61.61	85	35	28.55
1885	8	4.30	34	NE	60.75	86	35	28.55
1886	9	4.87	36	E	69.61	100	42	28.85
1887	5	2.54	25	SW	68.53	99	37	28.85
1888	7	2.25	34	SE	60.16	88	36	28.88
1889	7	0.15	33	...	63.11	94	30	29.01
1890	10	1.81	27	SW	62.86	92	30	28.79
1891	8	4.79	36	S	60.88	89	30	28.95
1892	12	6.62	51	NW	57.83	90	38	28.74
1893	9	5.73	31	S	60.85	91	31	28.77
Means	8	4.07	47	SW	63.90	90	38	28.72
								29.05
								28.27

WIND RECORD.

May.	Total Miles.	Mean Daily.	Maximum Daily.	Minimum Daily.	Mean Hourly.	Maximum Hourly.
1889	9520	308.95	914	63	12.87	44
1890	6123	197.48	547	57	8.23	35
1891	7691	241.10	552	57	10.34	35
1892	10092	325.55	665	95	13.56	46
1893	9193	296.54	597	98	12.55	41
Means	8524	273.92	655	74	11.51	40

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May 26th.

Immediately after Chapel the members of the Ionian Society repaired to the steps at the southeast entrance of the College for the purpose of having their pictures taken, thus enabling Miss Dewey to make the desired present to the Society. Promptly after this was done they marched in one body to Ionian Hall, where President Mudge called them to order. After singing and devotion, the Secretary called the roll, which showed a goodly attendance. The first on the programme was a debate, question, "Should the Bible be read as a religious exercise in the public schools?" The affirmative was defended by Bertha Spohr and Belle Frisbie. The negative was ably argued by Ada Rice and Jessie Minnis; however, the Society decided in favor of the affirmative. An essay, "It Cannot Be Done in One Day," by Antonetta Fisher, then followed. This was exceedingly interesting, and showed careful preparation. The Oracle was presented by the editor, Ethel Patten, the motto of which was "Be of good cheer." The motto was one that the editor could ably discuss, as cheerfulness is not a stranger to her. Ida Pape read an original story, which was well written, as every one knows who has heard any of her original work. Mary Lyman then entertained the Society with a vocal solo, which was highly applauded, and she sang another solo which was equally good. Report of committees; new business; Critic's report; reading of minutes. After a solo by Kate Pierce, the Society adjourned.

B. J. S.

May 26th.

The Alpha Beta Society was called to order by the President, and the programme was opened by C. M. Buck with a guitar selection. Sarah Cottrell led in devotion. Bertha Steele gave a declamation, "Make the Best of Everything." Essay, "Looking

Backward," by D. Timbers. In debate, Martha Cottrell and J. E. Thackrey took the stand that poverty is more an occasion and provocation of crime than is wealth. J. F. Odle and Grace Secrest formed the opposition. The chief points on the affirmative were: The poor are influenced more by the lower passions than are the wealthy; murder is much more prevalent among the poor, and so with like crimes; the homes of the poverty-stricken afford no elevating influences; the desire for food is the controlling passion in man, and to this they succumb; crimes are not measured by the amount of money they concern, so that must not be taken into account. Negative: The rich, having once tasted the fruits of wealth, will go any length to preserve and increase it; this oftentimes provokes crime; then their brains become diseased from care and trouble; their princely mansions are often dreary abodes; and they have incentives to crime, such as the poor never dream of; though they often manage to cover up their work, whereas a poor man is convicted, yet the fact remains; what can cause bank, house, and highway robbery, defalcations, etc., if they are not due to a seeking for wealth? Misses Moore, Hulett, and Kimball, Judges, voted for the affirmative. F. Hulse presented the Gleaner; motto, "Having begun, keep at it," which gave him an opportunity to make a few remarks editorially. The usual miscellany of prose and poetic articles followed. After recess, Miss Parker spoke informally on the points that base-ball and society work did not have in common, and A. H. Morgan discussed a scheme for boarding at college that savored much of communism. After other members had their say on these topics, Society business was taken up.

W. H.

At the usual time the Hamilton Society was called to order by President Lyon. G. G. Boardman led in devotion. Roll-call. Adoption of the minutes of the previous meeting. Essay, "A Botanizing Trip to the Lake," by C. M. Brooks. A very amusing and well delivered declamation, "The Nose," C. A. Bailey. Debate on the question, "Has nature or education the greater influence on the formation of character?" The affirmative was ably presented by V. J. Sandt and B. W. Conrad, and the negative by B. M. Brown and A. L. Peter. The debate was followed by an interesting discussion in which we were told all about the very difficult process of manufacturing gongs, by R. K. Farrar. Newsman C. R. Hutchings told the most interesting occurrences of the week, including the fact that the Sophomores were sleepy. E. L. Frowe, as music committee, had secured the services of a band quartette which presented the Society with two good selections. Discussion, "A Trip to Topeka," R. S. Kellogg, and a very amusing essay on "First Experience with a Razor," by G. W. Finley, closed the programme, and the Society adjourned for five minutes. After recess, Captain Bolton, who had accepted an invitation to give the Society a short address, gave a very interesting and instructive account of the history of the 7th Cavalry in Kansas. The Society tendered Captain Bolton a hearty vote of thanks. New and unfinished business occupied the time till 10:35. Adjournment.

R. J. B.

May 27th.

The Websters were called to order by Secretary Pope, and J. Stingley was called to the chair, President and Vice-President both being absent. Roll-call. Prayer, I. A. Robertson. The minutes of the preceding session were then read and adopted. The exercises of the evening were opened by the debate, on the question, "Resolved, that the Geary anti-Chinese act is too radical, and should be repealed." J. W. Evans, the leader on the affirmative, spoke of the many Chinese in Southern New York who would not register, and those of many other States who have followed their example; and he argued that if the United States were compelled to send all those who would not register back to China, it would take a vastly larger sum of money to do so than is now in the Treasury for that purpose. He also spoke of their interests in the flourishing business in California, and their position in mechanical work, as in the great steam laundries, and argued that as the Chinese are the only people that can carry on this latter business successfully, it would be of a disadvantage to the people of this country to have these people expelled from our land. C. B. Selby, in opening the negative, argued that the United States has received enough foreigners, and that it is high time to put a stop to the emigration of such people as the Chinese; and had this law been passed several years sooner it would have been better for America. He further stated that their social qualities are degrading in every respect, and that the United States should not tolerate such a race of people. The affirmative was argued still further by C. H. Paul, who thought that if we exclude the Chinese from this country other races, more harmful than they, should also be excluded; and further, if the Chinese were compelled to register they would become citizens regardless of their wishes, and would not help, if need be, to maintain our government. C. N. Peck, continuing the negative, argued that the Chinese came here for no other purpose than to earn a fortune and then go back to China, and by their so doing we get no immediate return for our money which they take out. J. W. Evans then closed the affirmative with more good argument, and C. B. Selby in closing the debate summarized the arguments in a very characteristic and witty manner. The decision of the Society was in favor of the negative. President Pfeutze, having arrived, was called to the chair. J. G. Haney continued the programme with a declamation, followed by an essay on "Dress reform," by R. J. Peck. After recess the Society was delightfully entertained by a horn quartet, who responded to a hearty encore with another good selection. A. E. Fulhage delivered a declamation entitled "Roll-call," following this was a Reading by M. W. McCrea. A general discussion of the subject "Would a National Prohibition Law be practical?" was indulged in by many members of the Society, the argument being both pro and con. G. W. Smith then sang a solo, "We Draw the Line at That," accompanied by J. E. Mercer. Unfinished business then occupied the Society for some time. The members were then treated to a short address by Captain Bolton. The Captain, in his pleasant manner, spoke of his experience in the Rio Grande country, and the occasion will long remain one of the pleasant memories of Society life. Adjournment 10:30.

F. R. J.

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June 3.

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The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

JUDGING CONTEMPORARY EVENTS.

BY PROF. FRANCIS H. WHITE.

IT is, perhaps, fully as easy to write the history of the remote past as of the immediate present. In the first case the events are so far away as to be almost indistinguishable; in the second, they are so close as to obscure all but the one immediately under consideration. A penny held at the distance of a yard is beyond the point where the date and inscription can be read with certainty; but held within an inch of the eye it is even more difficult to decipher, and has also the added disadvantage of shutting out nearly all the rest of the world.

Most historians shrink from the task of writing contemporary history. Alexander Johnston, the great authority on the political history of the United States, whose work is generally admitted to be free from political bias, once in my hearing expressed his inability to write satisfactorily about the events that had occurred during his own active manhood. Now this difficulty does not arise, as some seem to think, solely because passion and prejudice blind one, make him fail to sympathize with other views and other parties than his own. Often it comes from our inability to see present events in their general relations—we cannot “see the woods for the trees.” One must get some distance above the earth if he would observe the course of a river and its tributaries.

But difficult and unsatisfactory as is this work of forming judgments on contemporary events, none of us can possibly escape it. Answer the riddle of the Sphinx we must. In our political, social, and religious life constantly we are called upon for action. Whether we shall do this or that or refrain from acting altogether depends entirely upon our judgment as to the significance of certain current events. How blindly we move along! How we grope in the darkness!

What then? Shall we trust ourselves to the guidance of stronger, clearer-visioned men, the prophets, who are, as some one says, “the historians turned around?” This simplifies but does not solve the problem; for we are immediately confronted with the question, “Which prophet?” Look around you—in every department of human activity there are rival leaders, each saying, “follow me.”

Some will ask, “What do you mean? I have no difficulty in choosing my church or my political party; it is all as clear as need be, and once having chosen, all you have to do is to accept what is said without question.”

But is it not possible your sect or faction is partly right and partly wrong; must you believe it infallible; are you safe or sensible in following it badly? No doubt perfection is not to be expected, and one must often choose the lesser of two evils; but it is unwise, not to use a harsher word, for one to forego independent judgment and place himself entirely in the hands of others. It is true one avoids the pain of decision of balancing arguments, and persuades himself he is escaping responsibility. Yet as surely as he takes this course punishment follows. Misuse or disuse of powers inevitably brings their impairment and death. Confine your hearing and reading to one side of a controversy, become a parasite if you will, and draw your sustenance from the minds of others, but remember what will be the result: dependence and loss of the power to work up the raw material of thought into that which will nourish and improve your own mental and moral system.

There is no escape from the dilemma: form your own judgments and you may go wrong; blindly accept others' opinions and you deteriorate. What can be done to enable us to arrive at more

correct conclusions in regard to contemporary events?

The lack of data or information is a serious obstacle to correct judgments. This will decrease, however, as the means of obtaining, retaining, and transmitting information are brought nearer and nearer to perfection.

Intentional misinformation is another obstacle. It will be overcome only as increasing intelligence and a more enlightened self interest makes it clear that honesty, fair, open, “above-board” dealing with fellow men brings always the deepest satisfaction. “Diplomacy”—so called—and sharp practice of all kinds will be relegated to the ignorant, those whose intelligence is so limited as to prevent them from seeing their own best good.

A third is the inability, even with adequate information, to reason correctly. Our minds do not act with certainty and precision upon the data presented for consideration, and they are not sufficiently comprehensive to see things in their larger relations. Constant practice in youth and continued exercise of the reasoning faculties in mature life will undoubtedly improve the judgment. Our educational methods are being more and more shaped to accomplish this result, while the growth of democratic methods in our political, religious, and industrial affairs cannot fail to give us larger views and a wider outlook.

A GOOD FARM TEAM.

Farmers too often sell the best horses, and content themselves with any sort of a team on the farm as being of little consequence, and too often even sell good grade mares that would raise a fine colt and do better than any other horse on the farm. But the buyer offers a good price, and the best producer on the farm is sold.

English and French farmers have pure-bred draft mares to profitably do the farm work and raise a colt every year that pays the rent. Mr. McClain, at a Kansas Farmers' Institute, advocated breeding high class horses and having good teams on the farm. He said:

“It is impossible to estimate the difference between a good and a poor team on the farm. One means success, the other means failure. I am asked to say which breed of horses I consider the most promising to raise for sale. I suppose, of course, they mean for the farmers in this section, engaged as they are, in profitable farming. I would say that if one-half of the farmers here kept an account and knew just what their horses cost them when grown and ready to work, they would find that they have cost them more than they could be sold for. I would say, for most farmers, to raise (if for sale) draft horses. My reasons are the following:—

“1. Early maturity. Draft horses can be gotten on the market one year younger than a warm-blooded horse.

“2. They are easily broken. It takes less time to fit them for market. They do not require such perfect conditions as a driving horse.

“3. If by chance they have a slight blemish, they will pass muster where such a blemish would unfit a driver for market.

“4. It don't require any more feed to raise a big draft horse than it does a smooth, warm-blooded horse.

“Now, to sum up, I would say: if you raise horses at all, raise good ones of some pure breed. I am anxious that our neighborhood should excel in everything. I am in favor of special farming. I think one-half of us ought to quit raising horses. Let those who don't, raise a higher grade of horses

and raise them better and worth much more money than those we are now raising. The mongrel, mixed-up breeds we have been raising must go. They ought to have gone twenty years ago. The little splinter-skinned drivers—so-called warm blood—are of no value. If you raise drivers, raise horses 16 hands high, weighing 1,100 to 1,300 lbs., that can draw two persons in a buggy six to eight miles per hour without oppressing them. Life is too short and business too pressing to go plodding along the road after a plug horse."

THE IDEAL WESTERN FARMER.

One thing which most forcibly strikes the American traveler abroad is the solid, substantial, and permanent nature of all the improvements on real estate. They look as if they had been built by the owners of the land for themselves and their prosperity, and they do not deceive their looks—this interpretation is correct. They were so built.

The one thing which impresses the traveler over the West is the temporary, makeshift, time-serving appearance of the improvements on real estate. They impress one as the work of men who all the time were turning over in their minds the advisability of moving out in the fall after their completion, and too often this is true.

A great many of the pioneers of a new country are not stayers. They are sojourners, and spend their time soliloquizing: To go, or not to go; whether it is better to bear the ills they have, or fly to those they know not of.

Some come with dreams of sudden wealth, which are not realized; others with ambitions which are not appreciated. Some are disappointed in climate, in surrounding, in their share of the dispensations of fortune.

In a new country it becomes a fashion to find fault, to complain of the soil, the climate, the crops, and all that pertains to life, happiness, and prosperity in it; and it is a great factor in retarding the progress of that country. A feeling of unrest, disquietude, uncertainty, ill-defined fear, pervades the whole community, and relaxes the efforts of almost every individual in it. Earnest, thorough, and intelligent work is not vigorously prosecuted, because the specter of disaster hangs in the mind of the worker during all the season. "No use to take care of them pigs; they won't be worth nothin' anyway. Them fellers down to Kansas City just fix the price to suit themselves, and don't 'low us anything for the growin' on 'em." Now it is: Confound my luck, anyway; hogs is beatin' 7 cents, and I havn't got any. When I did have a hull lot, they wan't worth 3 cents." "John, ye needn't plow that wheat stubble; jest drill it in as it is. Like as not it won't be much of a wheat year, anyway, and you'll jest lose your labor." Now: "Who ever seed things work so contrary. There's Lohman's wheat on that plowed ground turning out 30 bushels at the machine, and weighin' 63 per bushels, and, gosh hang, ours on just as good land as his is turning out 18 bushels at the machine, and weighin' 55. Goll darn such a country, anyway!"

We all know such. And the further west we go the more we find of them; and the more we find of people who have not taken root in the soil on which they have settled. Such are not the people who develop a country; they are not the people who grow rich and independent. The little work they do inures to the benefit of those who come after them.

Some men do differently. The man who does most wisely is he who, going into new country, locates upon a farm after mature deliberation; who selects one suited to his means and wants; settles upon it with the expectation of there remaining the balance of his working days.

He looks upon that piece of land as his share in the distribution of the earth's surface, and he means to impress his own individuality upon it. His family grows up around him with the same ideas. "When father is old, we boys will run the farm." After a few years you can read all this in the appearance of the farm.—*The Western Stockman and Cultivator*.

The best protection against swine diseases is general cleanliness and plenty of wholesome food in variety and suited to the hog's nature. An exclusive diet of corn converts a normal hog into a large lump of fat, which is functional degeneration.—*Farmers' Home*.

VALUE OF AGRICULTURAL PAPERS.

Every farmer should take at least one good reliable agricultural paper, devoted to all branches of agriculture. If he makes a specialty of any one branch, he should take one devoted to that topic exclusively, besides his "general purpose" one. New discoveries in the sciences pertaining to agriculture are being constantly presented to the public through the various agricultural journals, which the farmer will never know anything about, unless he takes one. The farmer who does not take one of these papers devoted to his pursuit is not "abreast of the times."

All professional men take papers and magazines devoted to their professions. Why should not the farmer do the same? His work is as important as theirs. He should be a professional farmer. By studying his papers he learns, through the experience of others, how to feed his stock in the most economical manner; how to care for them properly; how to breed and develop them to secure the best results. He also learns what fertilizers the different crops require, and how to apply them in the required quantity and proper form, so as to produce the best crops and to prevent any waste. He learns many other matters equally important for him to know. It will be a great educator to him, if he studies it.

No farmer can help becoming better informed on agricultural subjects, if he takes an agricultural paper and studies it. No progressive farmer should think of managing his farm another year without reading a good agricultural paper to guide him in his work.—*Correspondent Our Grange Homes*.

FARM NOTES FROM VARIOUS SOURCES.

Cleaning up and burning old rubbish is one of the best insecticides known.

At no time in the history of agriculture was it ever advancing with such rapid strides as at the present. It has been drawn into the progressive current of the age, and moves onward with the general drift.—*Mirror and Farmer*.

The more men become educated, the wider the diffusion of ideas, the harder it is to keep up with the procession and the easier to think that the world is going wrong. It does not necessarily follow that the world is going wrong because it goes past us.—*Wisconsin Farmer*.

The soil on a stock farm seldom loses its fertility, while on a grain farm there is a constant and ever increasing impoverishment of the soil that is sure to make it unproductive in the end. Do not throw away the fertility of your soil, for it is all that makes the farm worth having.—*Western Farmer*.

Reading, thinking, and practice, or to express it differently, books, study, and experience, make the competent farmer. It is easy to see, then, what kind of schooling our boy-farmers need; and seeing this, there can be no question what kind of schools to provide for their education. The problem is a simple one.—*Maine Farmer*.

The money expended in the last twenty years on county roads has done very little good. Had the amount taken from the tax-payers been used annually in grading and macadamizing the principal highways in every country we would today have all the principal or leading roads in most of the counties in fine condition, which with very small annual expense could have been kept in order.—*Colman's Rural World*.

There is nothing that increases the price of farm lands as much as good farming, and in a neighborhood where the barns are large, the houses nicely painted, the roads good, and the people contented, there is where the land is worth from \$25 to \$40 per acre; and one poor, shiftless, weed-grown farm hurts that neighborhood more than all the trusts and combines of which so much is said.—*Colman's Rural World*.

One of the best things agricultural societies could do would be to arouse the enthusiasm of the rising generation in matters pertaining to agriculture. We often see young men engaged in other occupations so enthusiastic over their business that they can talk of little else. Everything having any bearing upon their industry is discussed at every opportunity. This is not so frequently the case with young people on the farm, and it is largely because they have had less encouragement in this direction. The above suggestion is not intended merely for agricultural societies, but

for farmers individually. An enthusiastic interest in his business will be worth more than many prizes to the boy who is to be a farmer, and it is our duty to do everything possible to arouse this enthusiasm.—*National Stockman*.

The Illinois Senate has just passed a bill similar to one in effect in New York, that all persons who will use wagons or trucks with tires not less than 3 nor more than 6 inches in width, shall receive a rebate of one-third of their highway tax, provided that such rebate shall not exceed \$5.00 per annum. The force of this law is apparent to all. Wide tires mean better preserved roads, and the *Orange Judd Farmer* views with pleasure this tendency to do something concerning the roads of this State.—*Orange Judd Farmer*.

The necessity for better roads throughout the country is a subject that grows in magnitude according to the thought bestowed upon it. A man of reflective cast of mind can hardly travel over a country road without mentally suggesting needed improvements of various kinds thereon. It is worthy of remark that while there has been great advancement in every department of industry, and even new fields of wealth explored, our public highways remain pretty much in *status quo*. "As your fathers did, so do ye," applies to the typical, rural American citizen, in so far as regards country roads.—*Home and Farm*.

Railroad legislation will never make farming profitable where the farmer insists on sending his products to market in their cheapest form.

A farmer's son is not a bond-servant. He is therefore entitled to be consulted on plans of farm management and in regard to his own plans and purposes.

The farmer is a botanist, chemist, zoologist, entomologist, and ornithologist, and yet he is regarded by some lawyers and politicians as a person of little consequence.

If a farmer uses land which might produce a fifty-bushel crop to produce a thirty-bushel crop, he loses the difference, even if he never had the thing lost. He loses the opportunity to have had it, which is the same thing.—*Western Stockman and Cultivator*.

The young men of the farm who are beginning to entertain thoughts of a professional education with a view to becoming lawyers or doctors, teachers or preachers, in order to avoid the work for the farm, to wear better clothes, to live in fine houses, go into politics and enjoy the bustle and excitement of the big city and the greater world, had better think twice ere they take the first step that shall wean them from their present healthful and independent life. Men who have traveled, who have seen and know the world most and best, would like nothing better than to be able to retire from the worry, the incessant work, and the untiring energy called into requisition in any one of the professions named, and indeed in any of the professions in life, and go on to the farm with its quiet, calm contentment and health. Let these young men fortify themselves now by devoting time to study, to think, observe, and experiment, and thus post themselves and pave the way for more successfully prosecuting the work of the farm, and they will find themselves better off as they approach old age than nine-tenths of those who leave the farm for a professional or city life.—*Colman's Rural World*.

The prosperous business men are those who labor least with their hands and make the head take the chief burden of the work. And this is true especially of those farmers who so manage their work so as to dispense with the hardest labor by skillful use of all their opportunities. This is seen in those instances in which the improved methods of feeding cows, by soiling in the summer and by ensilage in the winter, are practiced; by improved methods of culture, by which the yield of the crop is doubled; by those who cater to the more refined tastes of the public. The special farmers, the fruit growers, the buttermakers, the shepherd who supplies the early lambs, those dairymen who use the best labor-saving machinery and utensils, those cattle feeders who rear the finest beefs, those farmers who supply the markets with small pigs, fetching as much money at five months old as a two-year-old but not so well managed hog will do; all these are prosperous, and by the certain rule that to those who have the skill and take the thoughtful pains will always be the largest profits, they always will enjoy prosperity.—*Colman's Rural World*.

CALENDAR.

1892-93.

Fall Term—September 15th to December 23rd.
 Winter Term—January 9th to March 31st.
 Spring Term—April 3rd to June 14th.
 June 14th, Commencement.
 1893-94.
 Fall Term—September 14th to December 22nd.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds *at par*. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address, until July 1st, T. P. Moore, Loan Commissioner, Holton, Kan.

LOCAL MATTERS.

Prof. and Mrs. Failyer will entertain the Fourth-year Class Monday evening.

Rev. Wheeler, of Chapman, Kans., was a visitor at College on Monday morning.

Janet Webb attended Chapel exercises Friday in company of Winnie Houghton.

Indications point to a large attendance of former students on Commencement Day.

Assistant Breese was sick for several days this week, and on Thursday was unable to meet classes.

The Fourth-year and Second-year clubs will play the last game of the season Monday afternoon.

Prof. White left for Washington, D. C., on Thursday afternoon, called by the serious illness of his brother.

Rev. and Mrs. Riley entertained the Senior members of the College who attend their Church, on Thursday evening.

Rev. Phipps, recently employed as pastor of the Presbyterian Church in this city, led in Chapel Exercises Wednesday morning.

Mary Lyman, Jennie Smith, and E. A. Donaven are elected student editors of the INDUSTRIALIST for the Fall Term of 1893-4.

Some thirty lantern slides of College views have been furnished by request of the U. S. Department of Agriculture for illustrated lectures at Chicago this summer.

"The Past, the Present, and the Future of the Agricultural College" is the subject of the Alumni address on Tuesday evening by Dr. S. W. Williston, '72.

Hon. Geo. L. Douglass visited the College yesterday, and in a talk to the students in Chapel expressed surprise and pleasure at the extent of the institution and its evident power for good.

T. P. Moore started for Oxford, Ohio, yesterday, where his daughter Annie graduates this month. They will return home by way of Chicago and take in the World's Fair.—*Holton Signal*.

Secy. Graham is the owner of a new cane which he values highly. It is an Alaskan totem cane, made from a whale's rib, and handsomely carved, and is the gift of R. A. Clark, Second-year in 1891-2.

Mr. McCreary returned on Monday from a visit of six months to California and Arizona. He looks well, and is almost wholly free from neuralgia. On July 1st he will resume his duties as Janitor.

Dr. P. S. Henson, of Chicago, in his lecture before the literary societies of the College last evening, was met by a crowded Chapel. The subject of his discourse was "Gunnery," which he handled in a manner highly satisfactory to all listeners. A more complete announcement of the lecture will be given in the "write-up" of Commencement exercises.

Three inquiries within a week as to method of procedure in this College, for the sake of newer colleges of similar nature, indicate a satisfactory report outside the State, and multitudes of kindly notices in the State press, too numerous to acknowledge in particular, express the confidence of our own people in the College work and methods.

The Fourth-year and Faculty ball clubs met on the diamond yesterday afternoon for a five-inning game, which the students won by a score of 16 to 6. After the game the Cadet Band played a funeral dirge which seemed to fit into the exercises very nicely. Still the Faculty Baseball Club will

no doubt "bob up serenely" twelve months from now, ready for another game.

A well-filled house greeted the Third-years at their last appearance as Third-years, Friday afternoon at the public exercises. The hour was filled with discussions of the following subjects: "An American Organization," Stella V. Kimball; An "Independent Character," John Stingley; "Nobility Lies in the Mind," Marie Haulenbeck; "Thoughts on the Liquor Question," R. M. Laundy; "What it Costs," Maude Parker: "Is Mob Law Justifiable?" W. H. Steuart; "Influence of Music," Kate Pierce; "Keep a Stiff Upper Lip," M. V. Hester; "Farewell," Jennie Smith.

The work of mounting for the museum the skins which have been collected at various times is nearly completed. There are two groups of animals, one consisting of five elk—one very large bull, one small bull with "spike" horns just starting, two cows, and a calf. The other group is Virginia, or common deer, and consists of a buck, an adult doe, a small doe, and a fawn. The groups show the animals in various attitudes, standing and lying. Other animals mounted are a mule deer in the "red coat" of the summer season, with horns in the "velvet," an ornithorhynchus, a grey gopher, a porcupine, a jack rabbit, a pocket gopher, and a mole; also a head of a foal affected with hydrocephalus, or water on the brain. The skins of the large bull elk and the calf, and the mule deer with horns in the "velvet" were donated to the museum by Mr. W. R. McFadden, of Denver. All the work of mounting has been very nicely done by him. These additions will add to the attractiveness and usefulness of the museum.

GRADUATES AND STUDENTS.

G. L. Christensen, Third-year, visited home this week.

Gertie Lyman spent Friday at College with her sister Mary.

Amelia Christensen, Second-year in 1887, was a visitor Friday.

Selma Lund, student last year, is visiting with College friends.

Susie W. Nichols, '89, of St. Joseph, Mo., is here for Commencement.

Flora Wiest, '91, is at home again after a year's teaching in Stafford County.

Carrie Ipsen, Second-year in 1889, died this week at her home in Mariadahl.

W. D. Morrison, Fourth-year, will go with his parents to Texas in a few weeks.

A. E. Newman, '90, is Superintendent of Public Instruction in County "C," Oklahoma.

J. R. Eichar, First-year, was called to Topeka on Friday of last week by the death of a sister.

R. D. Whaley, Third-year in 1889-90, died at his home in Manhattan, Wednesday, June 6th, of consumption.

May Secretst, '92, of Randolph, who is attending the Institute, spent Friday renewing College acquaintances.

Susie and Ella Noyes, Fourth-year and Second-year, returned to College Friday, after the death of their father.

Hattie Yenawine, Second-year last year, and Paul Berkshire, First-year last fall term, were visitors yesterday.

G. N. Thompson, '87, came in Monday from Belmond, Iowa, where he has built up a good business as carpenter.

Inez Palmer, Second-year last year, came up from Clifton Friday to visit her sister. She has been teaching the past year.

The Oklahoma Press Association, at its recent meeting at Kingfisher, elected H. B. Gilstrap, '91, Secretary, and Effie Gilstrap, '92, Treasurer.

Effie Gilstrap, '92, member of the firm of Gilstrap & Gilstrap, of the the *News*, Chandler, Oklahoma, came in Friday to attend Commencement exercises.

C. H. Thompson, Fourth-year, has a commission from the United States Department of Agriculture as Field Agent in the Botanical Division, at a salary of \$100 a month. He will begin

work immediately after Commencement, and will first collect in Hamilton, Stanton, Morton, Stevens, Seward, and Grant Counties.

E. Ada Little, '86, assistant in music and sewing in the Utah Agricultural College, and Abbie Marlatt, '88, Professor of Household Economy in the same College, arrived at their homes on Wednesday.

John W. Shartel, '84, made a hurried visit to his alma mater between trains on Monday. Since December he has made his home in Guthrie, Ok. Mrs. Effie Woods-Shartel, '85, will, after a short visit to the World's Fair, spend the summer with her parents in Randolph.

The following item, which is going the rounds of the press, must be interesting to the *Union* editor, W. C. Moore, '88: "The Junction City *Union* was thirty-two years old last week. The *Troy Chief*, which completed its thirty-sixth year this week, and the *Atchison Champion* are the only papers in the State that are older than the *Union*. There is not a better county weekly in Kansas than the *Union*, and it is growing all the time."

S. I. Wilkin, Third-year in 1891-2, writes from Bow Creek under date of June 2nd as follows: "I have just returned from a trip of several days, extending through Rooks, Graham, and Phillips Counties. It is the same every where, dry, dry, dry. The acreage sown to wheat was unusually large, and I saw but one piece of sod wheat, of 120 acres, that possibly will make a very few bushels to the acre. The rest will never have a header driven into them. In the south half of Rooks and all of Graham County the grain never sprouted. I send you a few grains that were drilled in the ground last fall early and remained there until May 31st, when they were dug up. You will observe the excellent condition they are in. They were drilled by a press drill and are a sample of thousands of acres. People claim moisture will cause this wheat to grow, but a friend of mine in Rooks County dug up some grains, a few weeks since, placed them in a box, covered lightly with soil and sprinkled water over them, making the ground moist so they would grow. Only 6 2/3 per cent grew. I thought this might be of interest to you. In my travels, all were complaining of dry weather, but not a single individual did I talk with who seemed disheartened or even talked of leaving the county. The courage displayed by some of these pioneer settlers in overcoming obstacles is truly heroic, and can we wonder that such citizens make our commonwealth take a prominent part in this great Nation?"

COLLEGE ORGANIZATIONS.

Student Editors.—F. R. Smith, Ivy Harner, Eusebia Mudge.

Webster Society.—President, C. F. Pfeutz; Vice-President, E. A. Donaven; Recording Secretary, H. G. Pope; Corresponding Secretary, F. R. Jolly; Treasurer, S. A. McDowell; Critic, G. W. Smith; Marshall, F. E. Uhl; Board of Directors, E. M. S. Curtis, J. Stingley, J. U. Secretst, E. H. Freeman, and S. H. Creager. Meets on Saturday evening at eight o'clock. Admits to membership gentlemen only.

Ionian Society—President, Eusebia Mudge; Vice President, Blanche Hayes; Recording Secretary, Miriam Swingle; Corresponding Secretary, Bertha J. Spohr; Marshal, Elva Hoyt; Treasurer, Ethel Patten; Critic, Nora Newell. Meets on Friday afternoon, at 2:30 o'clock. Admits to membership ladies only.

Hamilton Society.—President, T. E. Lyon; Vice President, I. Jones; Recording Secretary, O. A. Otten; Corresponding Secretary, R. J. Barnett; Treasurer, C. D. Adams; Critic, H. I. Floyd; Marshal, R. S. Kellogg; Board of Directors, W. E. Smith, E. L. Frowe, W. E. Hardy, R. K. Farrar, and C. D. Lester. Meets on Saturday evenings at eight o'clock. Admits to membership gentlemen only.

June 2nd.

President Mudge being unable to be present at the opening of the session, the Ionian Society was called to order by Vice-President Hayes. After singing and roll-call, Miss Norton led in prayer. The programme was at once turned to, and opened with a vocal duet by Louise and Bertha Spohr. Elsie Crump gave a select reading, which was followed by a discussion, "Is the Salvation Army entitled to the support and approval of the Christian people?" opened by Minnie Pincomb, and freely discussed by the Society. Miss Walters entertained the Society with an instrumental solo. The "Oracle" was presented by Miss McKeen. Motto, "There is nothing new under the sun." This edition contained many instructive contributions. Alta Lee favored the Society with a vocal solo, which, to judge from the applause, was highly appreciated. Blanche Hayes rendered a selection in a pleasing manner. After a piano duet by Blanche Hayes and Elsie Crump, the programme closed with a vocal trio, by Mary Lyman, Nora Newell, and Ione Dewey. After a few items of business, Critic's report, and reading of the minutes, the Society adjourned.

B. J. S.

June 3rd.

President Lyon being absent, the Hamiltons were called to order at the usual time by Vice-President I. Jones. J. A. Rokes was appointed Recording Secretary for the evening. Prayer by F. A. Dawley. After adoption of the minutes, the evening's

programme was opened by a select reading by A. L. Peter, entitled "Old Jack in the Well." It was a very comical piece, and was rendered in proper style. The debate on the question, "Resolved, That the Hamilton Society should change its time of meeting from Saturday night to Friday night," was argued affirmatively by A. D. Benson and F. A. Dawley, the negative being presented by C. D. Adams and C. Snyder. Although the debate was short, it was exactly to the point, and showed the debaters had put considerable work and thought on the question. The main argument on the affirmative side seemed to be that so many of the members of our society work on Saturday that it detracted to a great extent from the interest they would otherwise take in the Society work, and that this could be helped by changing the time of meeting to Friday evening. In reply the negative stated that on Friday evening we are all tired of mental work and that in Society is not the place where we can get the needed rest. Judges Smith, Staver, and Bailey decided in favor of the negative. J. W. Holland read an essay in defense of "The Cowboy," followed by a discussion on "Artificial Rainmaking," by F. E. Cheadle, and an instrumental duet by F. R. Smith and C. A. Bailey. Declamation, C. A. Johnson. Business and extemporaneous speaking occupied the time till adjournment.

R. J. B.

June 3rd.

Eight o'clock came not too soon to find a number of Websters in their room, with President Pfuetz in the chair, ready for the duties of the evening. First on the docket was roll-call. Prayer by M. F. Hulett. Reading of the minutes of the previous meeting. The programme of the evening was opened with a declamation by Mr. Coleman, in which he told of "A Sad Mistake." F. Zimmerman read an essay on "Counterfeit Money," in which he told how some of the experts tell counterfeit money, and related his experience with them. J. B. Dorman then spoke a humorous declamation, "My First Experience at the Skating Rink." C. E. Freeman, an honorary member whom the Society "delighteth to honor," and who is ever ready, to do a good turn for the Society, furnished one of his pleasing banjo solos, and responded to an encore with a humorous production, "It Don't belong to Me." "Criticism" was the subject of an essay by F. E. Uhl, in which he pointed out some excellent ways in which the editors of the paper might make improvement. A cornet duet was then furnished by C. H. Paul and D. C. Arnold which was much enjoyed by all. The debate on the question, "Would a visit to the World's Fair be of more benefit to a young man than a year at College?" was discussed on the affirmative by E. G. Gibson and E. A. Donaven, and the negative by W. H. Steuart and G. A. Dean. The question was so evenly discussed that we are still in doubt which to do. The Society gave a decision in favor of the affirmative. The programme was closed with music from the Forsyth and Pearson orchestra. The gentlemen showed themselves competent to even do honor to the "Kollege Klub" organization. Dickens and Thompson, Music Committee. The programme being concluded, all points of order being decided (if not to the satisfaction of all), the Society passed to report of Critic, reading of minutes, assignment to duty, and adjourned promptly at 10:30.

Mc. W. McC., Secy pro tem.

June 2nd.

President Harner called the Alpha Betas to order at 2:30. J. E. Mercer rendered an instrumental selection, and Miss Havens led the Society in devotion. J. M. Westgate then recited a piece on the "Progress of the World." A. E. Ridenour's essay treated of Lincoln Park, Chicago's "Zoo," and advised us to visit it when there. Messrs. J. C. Christensen and M. G. Spaulding then attempted to show that the recent Geary act should be repealed. They said that the bill proposed to abrogate all treaties that may conflict with it, and though acknowledged as constitutional yet to us the question becomes, "Is it American?" The Chinese are peaceable race, there are few in poor-houses and jails; their presence is more than balanced by the work they have done. Other people that come here are worse than the Chinese, the Mafia and kindred organizations are far more to be dreaded than all the Chinese societies. G. L. Christensen and J. A. Bunker saw no good reason for the repeal. If our ports were open it might in a few years come to a struggle between our youthful civilization and the hoary one of China. Surely it is only wise to protect ourselves early. The law is not cruel, nor do we lose by it even in the event of retaliation. The Chinese that come here are those that cannot get along at home, the class that are not wanted there, and they bring with them many evil habits. J. C. Christensen on again taking the floor showed how little could be done in California without the help of the Chinamen. He also deprecated the attack on personal liberty embodied in the bill, especially since it regarded a nation that has always been easy to treat with. The difficulties in the way of enforcing the law were also mentioned. G. L. Christensen in closing the debate showed that the bill referred to laborers only; that previous treaties allowed us to restrict emigration, and he denied that retaliation had been threatened. Judges Havens, Norton, and A. C. Peck decided unanimously for the negative. The Gleaner by Stella Kimball was given over to the Juniors and their ways, but there was room left for various other entertaining articles. A mouth organ solo by W. M. Coffey was heartily encored, and then followed extemporaneous speaking, in which all members took part. Society business and criticisms of Society work were the last things in order before adjournment.

W. H.

WANTED—THOROUGHBRED STEERS.

The Experiment Station at the College desires to buy or exchange for Shorthorns and Aberdeen-Angus cows and heifers, TEN THOROUGHBRED YEARLING STEERS, either Shorthorns or Herefords, or both. Must be good individuals, and recorded or eligible to record. Also ten common native yearling steers, with but little or no improved blood in them. Address propositions to

PROF. C. C. GEORGESON,
Manhattan, Kansas.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

Emporia College has called Prof. Rhys-Herbert, of Emporia, to take charge of the musical department.

General J. C. Caldwell, of Topeka, has consented to deliver the annual address before the literary societies of Winfield College.

The *Student's Journal* of the State University of Kansas, says: "The attendance at chapel Wednesday was four professors, four assistant professors, and twenty-seven students." This is about eighteen per cent of the faculty, and four per cent of the students.

Since the establishment of the Kansas Asylum for the Deaf and Dumb, 686 persons have received instruction at that institution. The present average cost of maintaining each pupil is \$167.71 a year, and the table at which they feed is one of the best in the land.—*Kansas City Star*.

The new course of study for Normal Institutes, issued by State Board of Education, is being distributed. It is a new pamphlet of 72 pages and contains, in addition to the course, a list of valuable teachers, books, the rules and regulations governing the issuing of state certificates, life diplomas, and conductor's and instructor's certificates, and a list of the names of present State officers.

Keep out of grooves of all kinds. It is best to be ever on the alert for the shortest cuts and the best methods; we avoid becoming so attached to grooves that we find ourselves reluctant to leave them.—*Farm, Stock, and Home*.

GENERAL DUTIES AND PRIVILEGES.

General good conduct, such as becomes men and women anywhere, is expected of all. Every student is encouraged in the formation of sound character, by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. No other rules of personal conduct are announced.

Classes are in session every week-day except Saturdays, and no student may be absent without excuse. Students enrolled in any term cannot honorably leave the College before the close of the term, unless excused beforehand by the Faculty. A full and permanent record of attendance, scholarship, and deportment shows to each student his standing in the College.

Chapel exercises occupy fifteen minutes before the meeting of classes each morning, and unnecessary absence from them is noted in the grades.

Every Friday, at 1:30 P. M., the whole body of students gather for a lecture from some member of the Faculty, or for the rhetorical exercises of the third- and fourth-year classes. Once a week all the classes meet, in their class-rooms, for exercise in elocution and correct expression.

There are four prosperous literary societies, two of them of many years' standing. All meet weekly, in rooms set apart for their use. The *Alpha Beta*, open to both sexes, and the *Ionian*, for ladies, meet Friday afternoon. The *Webster* and the *Hamilton* admit to member-ship gentlemen only, and meet on Saturday evening.

The Scientific Club, composed of members of the Faculty and students, meets in the Chemical Laboratory on the last Friday evening of each month.

Once in each term the College Hall is opened for a social gathering of Faculty and students, in which music, literary exercises, and friendly greeting find place.

Public lectures by prominent men of the State are provided from time to time, as opportunity offers. All are free.

THOROUGHBRED
CATTLE

FOR SALE

The Farm Department of the College offers to sell some HIGH-GRADE ANIMALS, including several

SHORTHORN COWS

SHORTHORN HEIFERS

TWO SHORTHORN BULLS

A FINE YOUNG
HEREFORD COW. ~ ~ ~SOME ABERDEEN
ANGUS HEIFERS

Intending buyers are cordially invited to come and see them. PRICES WILL BE LOW, to suit the times. For further information concerning them, address

C. C. GEORGESON,

Professor of Agriculture,

MANHATTAN, KANSAS.

PAY YOUR WAY
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Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

COMMENCEMENT.

The Kansas State Agricultural College has graduated and sent out into the busy world another class of young men and young women—of the former 24, and of the latter 15—39 in all.

Favored with a cloudless sky and just enough breeze to temper the sun's heat, the great host of visitors early found their way to the grounds, and within a few minutes after the opening of Chapel filled it to overflowing. The programme opened at 10 o'clock with music, which was followed with prayer by Rev. I. D. Newell, of Manhattan. Each member of the class presented an abstract of his thesis, the delivery of which occupied about four minutes. With an intermission of an hour and a half for dinner, the exercises continued until four o'clock, concluding with the conferring of degrees and the presentation of diplomas by President Fairchild, who, in his usual earnest manner, spoke words of encouragement and advice to attentive listeners.

The names of the graduates, their post-office addresses, and the subject of their theses follow:

Edmund Clarence Abbott, Garden City, "The Power of Discipline."

Edwin McMaster Stanton Curtis, Council Grove, "A Plea for a Practical Education."

Corinne Louise Daly, Smith Center, "What is Genius?"

Ione Dewey, Manhattan, "Music."

Albert Dickens, Alden, "The Field for the Horticulturist."

Mac F. Hulett, Edgerton, "The Young Man and His Responsibility."

Laura Greeley Day, Manhattan, "Electricity in its Relation to Modern Civilization."

Fred Hulse, Keats, "Relation of Education to Agriculture."

Mary Maud Gardiner, Bradford, "Nature's Mathematics."

Susan E. Hall, Farmington, "Current Literature in England and America."

Charles Augustus Kimball, Manhattan, "The Law and the Farmer."

Thomas Eddy Lyon, Riley, "Are We Living in an Age of Reason?"

William Otis Lyon, Manhattan, "American Citizenship."

Mary Frances Harman, Valley Falls, "Home-making one of the Highest Professions."

McLeod Wilson McCrea, Dunavant, "Kansas."

Ivy Frances Harner, Leonardville, "Are We a Respectful People?"

George Lane Melton, Silver Dale, "The World's Congress of Religions."

August Fred Niemoller, Stitt, "The Advance of the Farmer."

Margaretha Elise Horn, Westerbergen, Germany, "Caste in the Old World and the New."

Henry Leamer Pellet, Prairie Center, "Aerial Navigation."

Charles John Peterson, Randolph, "Industrial Education."

Carl Frederic Pfuetze, Manhattan, "Water Supply of Cities."

Marcia Ione Hulett, Edgerton, "The Triumph of Truth."

John DeWitt Riddell, Conway, "The American Horse."

Maude Knickerbocker, Long Pine, Nebraska, "The Career of Life."

John Albert Rokes, Onaga, "Be a Specialist."

Fred Raymond Smith, Manhattan, "The Development of the West."

Rose Edith McDowell, Manhattan, "Physical Culture."

George Wildman Smith, Manhattan, "Kansas, and the Santa Fe Trail."

Eusebia DeLong Mudge, Eskridge, "The Ethics of Rest."

William Elmer Smith, Manhattan, "Methods of Bud Propagation."

Susie Amanda Noyes, Wabaunsee, "History and Its Use."

John Eugene Thackrey, Manhattan, "Growth and Influence of Industrial Schools."

Joseph B. Thoburn, Peabody, "State Forestry for America."

Nora Newell, Manhattan, "Glaciers."

Charles Henry Thompson, Bakersfield, California, "Disease in the Vegetable Kingdom."

George K. Thompson, Irving, "Electric Lighting."

Agnes Romick, Manhattan, "Industrial Education for Girls."

William James Yeoman, "La Crosse, "The Agricultural College."

The degree of Master of Science was conferred upon the following persons: Mark A. Carleton, '87, Manhattan, for proficiency in botany and horticulture; Clarence E. Freeman, '89, North Topeka, physics and engineering; Silas C. Mason, '90, Manhattan, horticulture and botany; Minnie Reed, '86, St. Clere, botany, domestic science, and horticulture; Marie Barbara Senn, '90, Enterprise, chemistry and domestic economy; Lottie Jane Short, '91, Blue Rapids, chemistry and domestic economy; Laura Luvernia Waters, '88, Junction City, botany and domestic economy; John Brookins Brown, '87, Nashville Tenn., agriculture and physics; Walter Herbert Olin, '89, Osborne, agriculture and botany. All but the last two named were present.

ADDRESS BEFORE THE SOCIETIES.

On Friday evening, Dr. P. S. Henson, pastor of the First Baptist Church of Chicago, delivered an address before the literary societies of the College. His subject was "Gunnery," and an appreciative audience can testify that the speaker knows all about it. It was made plain to the Doctor's hearers that with the student as the gunner and education as the gun, success, the thing gunned for, would most certainly be brought to bag. The lecture was highly entertaining.

The subject was divided into three heads—Gun Metal, Ammunition, and Aim. By gun metal is meant the stuff a man was made of. No doubt there is a difference in the metal. Some men are full of energy, full of fire—volcanic fire demanding volcanic vent—men who could fell primeval forests and invite the new sunshine to gladden the soil—men who are pioneers of civilization; and then there are men who have no fire—no iron in their blood—no backbone. He could not endorse what Gray says in his elegy about flowers that waste their sweetness on the desert air. He did not believe the orator who once said that God had made all men mental equals; because, otherwise, he would have worked in a fashion "contradictory to the Declaration of Independence, and contrary to the genius of American institutions." Iron is iron, but it differs in fibre. From some is made the "Barlow," from other the Damascus blade that will cleave a bar of iron without being dented. The rough ore, passing through the fiery darkness of the furnace, and under the blows of the trip-hammer, is strangely changed into strength and beauty. The class-room is a furnace, and the professor is the trip-hammer. The common metal of the mind, passing through the ordeal, instead of dying, "unwept, unhonored, and unsung," is soon in high demand. Take plenty of time in the furnace. Jonah's gourd grew up quicker than the cedars of Lebanon; it perished in a day; they stand courting the storms for centuries. Moses was forty years in college in Egypt, and then forty more in the seminary over in Midian, but the greatness of his work in the next forty years proved that the eighty years of preparation was not wasted. Let not poverty hinder. It is a real help. When the speaker entered college his own father entered bankruptcy. It was a blessed thing for him. He once had to "scratch gravel—and to eat gravel." The world needs men and women developed and trained to toughness of intellectual fibre. Do not hurry to be at your "life-work." You are at your life-

work now. Do not sing, "Art is long, and time is fleeting," but remember that the shorter the art, the sooner the funeral.

Guns are not to exhibit, but to be discharged. Bullets are needed, but they are of different sizes for different guns. You need not try to put a big ball into a little gun; and, large as the ball may be, it needs powder as a driving force. Give us heart-glow and demonstration. Many pulpits are dying of propriety. "Culchah" demands suppression. Give us energy in the speaker, and the "Amen! Hit 'em again," in the audience. But do not suppose that powder alone is needed, for it cannot drive the ball unless there is a ball to be driven. Columbus terrified the Indians of his day by firing blank cartridges, but it would have been unsatisfactory if Sitting Bull had been hunted in that style.

Do not be afraid of plagiarism. Fertilize your mind with the thoughts of others if you would produce thoughts of your own. Beecher did so, Spurgeon did so. They ate scientists—they ate Puritans—but it all turned to Beecher and Spurgeon. Preachers need to know more than Greek roots and exegesis; and lawyers more than Chitty and Blackstone, and the Kansas Reports. They need philosophy, they need history, the sounding footsteps of the mighty God marching down through the ages; they need to be familiar with all learning. As men gather metal for ammunition from the mines and from old battle fields, so gather thought from original sources, and from where Titans have fought, and cast it in the crucible of your own soul. The old definition of eloquence, as, 1st, action; 2nd, action; 3rd, action, is untrue. It should be 1st, condensed thought; 2nd, condensed thought; 3rd, condensed thought.

Every avenue to greatness is crowded and few are succeeding, because there is lack of definite aim. Hence the plodders at the college go to the front in human affairs, while the brilliant fellows only go "Sizz," and we presently realize that a stick has fallen. Determined will and thorough work will make the men and women that are needed. The names written highest are not the names of the sons of transcendent genius. Sunbeams scattered do not burn; focused, they melt metal. Steam diffused makes only fog; directed, it moves a piston, giving life almost to gigantic machinery, or drives commerce whirling across oceans and continents. Powder, scientifically confined, drives balls through human blood and bones, or batters down the ramparts of beleaguered cities; but if spread on a flat rock and ignited, it only makes a flash and leaves a bad smell.

THE BACCALAUREATE SERMON.

The exercises of Sunday afternoon opened with prayer by Rev. Edward Gill, Pastor of the First M. E. Church of Manhattan. President Fairchild took his text from Psalms 16: 11—"Thou wilt show me the path of life." The sermon will find a place in next week's INDUSTRIALIST.

CLASS DAY EXERCISES.

Tuesday afternoon the invited guests of the Class of '93 assembled in Chapel, which they comfortably filled. Each guest was provided with a beautiful souvenir programme with parchment cover upon which the talismanic "'93" was embossed in shining gold.

Class President Abbott introduced J. E. Thackrey, who delivered the "Stone Oration," presenting to the College a beautiful stone in which was sealed a damp-proof copper box containing class treasures. Regent Secrest, for the College, in accepting the gift, promised it a proper place in the new Science Hall soon to be erected.

T. E. Lyon, in an address entitled "Man's Intellectual Development," traced the progress of education through the ages, and showed clearly that man's intelligence is capable of almost any achievement.

"You and I," a vocal duet by Geo. Smith and Ione Dewey, was well received.

"Tale of '93," by Maude Knickerbocker, was a recital of some of the woes and pleasures of the class, giving many interesting facts, among them the following:

"When the class entered in the fall of 1889, it

numbered 307 girls and boys. When the fall term of 1890 opened, the ranks had been thinned to about 200 who came back prepared for the duties of a second year. Three of the cooking class of that year are now wielding spoons in the homes of three respective graduates of the Kansas State Agricultural College.

"At the close of the spring term of 1891, the curtain rings down to rise three months later on a class of fifty-five full-fledged Third-years in no way daunted by the outlook of a year's hard study. By the fall term of 1892, there were thirty-nine Fourth-years enrolled, with hopes of graduation. Twenty of these claim the honor of being Kansas Jayhawkers. Seven other States are the birth places of eighteen, and the broad Atlantic rolls between one of the members and the land of her birth.

"This class is partial to literature and history, as they are the most favored studies. The proposed occupations of the class are somewhat varied: seven of the young women declare their intention of finding a means of self support. The majority contemplate teaching. Only one of the girls had the courage to announce the fact that she expected to be a housewife. The others are "undecided" or "intend to take life easy," as one expressed it. Of the young men, six intend to study law; the idea of farming finds favor in the minds of an equal number. One of the twenty-four young men has decided to enter the ministry, one expects to be a botanist, another a horticulturist, while still another dares to dream of being a member of Congress. One aspirant has set his ideal above the clouds and expects to reach the same by an invention of his own—an air ship.

"The ages of the class range within a limit of ten years, from 17 to 27. The average age of the boys is 22 years and 5 months. Adding the length of all our lives together we have lived nearly 900 years. As to height, there is a variation of from 5 feet 3 inches to 6 feet 1 inch, the extremes being represented by Miss Susie Noyes and E. C. Abbott. The heaviest member of the class weighs 175 pounds; the lightest, 100 pounds.

"The class averages in age 22 years 1 month, in height 5 feet 6 inches, in weight 135 pounds.

"Brown hair predominates. Five have black hair, one crushed strawberry, and one red.

"This class took it upon itself to solve a very important question—regarding the expenses of graduating clothes, and we are now ready to report: The girls spent an average amount of \$36, while our brother classmates escaped with an average expense of \$27.50. Altogether our graduating clothes cost \$1209.

"It may be proudly said that the diligence which necessarily accompanies the student who earns his own way through college is not absent in this class. To ten of its members may be given this honor, and several more can say "partly supported by self."

"Of the twenty four young men, only three ever indulge in tobacco in any form, and one of these very mildly. To this class belongs the distinction of graduating the first Smith yet upon the roll of graduates of this institution. Perhaps it should be a three-fold distinction, as three of our members claim that name. The majority of the class are Christians, there being only ten who have never made any such profession to the world."

W. J. Yeoman read the Class Prophecy and F. R. Smith the Class Poem, and then the Mandolin Club played and whistled and sung in a most interesting manner.

Margaretha E. C. Horn proved to the entire satisfaction of the audience that "Grumbling" is not a lost art. Everybody—classmates, students, Faculty, visitors, and humanity generally—was treated to what the speaker would have them think they deserved, a vigorous tongue-lashing.

Then Joker McCrea joked, and some of his jokes were so amusing that he himself laughed at them.

"There's Nothing New Under the Sun" was sung, after which Ivy F. Harner delivered the valedictory in well chosen words and timely sentiment, and an instrumental selection by the Mandolin Club concluded the programme.

THE ALUMNI ADDRESS.

Dr. S. W. Williston, Professor of Paleontology at the State University, graduate from this College in 1872, in his address, "The Past, Present, and Future of the Agricultural College,"

had only good words for his alma mater. The address will be published in full in the INDUSTRIALIST of July 1st.

THE MILITARY DRILL.

The College Cadets in their natty blue uniforms made a pleasing if not imposing spectacle as they marched back and forth on the campus in their regular drill exercise. The sham battle, in which the artillery joined, claimed the attention of the multitude for almost an hour.

ALUMNI BANQUET.

On Wednesday evening the halls showed none the less activity of Commencement, on account of the Tri-ennial Reunion of the Alumni of the College. The merry group consisted, aside from the members of the Alumni themselves, of the Board of Regents, the Faculty and their wives, and a considerable number of especially invited guests. The earlier part of the evening was occupied with reunions of classmates, forming new acquaintances among different classes, and a general social time.

About nine o'clock President Williston of the Alumni Association, acting as Master of Ceremonies and Toast Master, formed the company into columns, headed by the Board of Regents; then, followed by the Faculty, and the various classes represented, beginning with the first class, the procession marched to the Drawing Room and halls adjoining, where was spread a most elegant feast. All the delicacies and substantial food one could desire was served in the best of style by the ladies of the Presbyterian Church of Manhattan, and the way supplies disappeared from view would indicate that alumni banquets were anything but profitable to others than the participants.

After the inner man had been amply satisfied, Toast Master Williston, in his characteristic and entirely original manner, introduced the programme of the evening with remarks suitable to the occasion.

The toast "Our Alma Mater" was responded to by Warren Knous, '92, with remarks on the good feeling between members of the Alumni and the College, interspersed with reminiscences of college pleasures and pains, work and amusement, trials and tribulations.

President Fairchild's response to the toast "Industrial Education" was an index to the work he has striven to elevate since his connection with the institution, treating of the necessary training of hand and mind simultaneously.

Hon. A. P. Forsyth, in his usual earnest manner, made more interesting and effective by the humorous interlines, spoke of "The Board of Regents," their interest and work as trustees of the greatest institution of its kind in the world, and what they were doing to advance the work of agricultural and industrial education.

"The Faculty" was responded to by Professor Olin. In this connection Mr. Olin spoke of the great responsibility that rested upon them as a body in carrying out the work before them, and the necessity, for the most successful results, of unity not only between members of the Faculty, but between instructor and student.

Hon. Ed. Secrest, in his remarks on "Our New Building," felt proud of the fact that the Legislature had been so liberal in appropriating the fund for such a purpose, which is so much needed. He referred to its grandeur as a means of forwarding the cause of education, of which he is a true disciple.

At this point the exercises were varied by a quartette, "Annie Laurie," by C. E. Freeman, '89; G. W. Smith, '93; W. P. Tucker, '92, and B. H. Pugh, '92.

The toast "The First Class" was responded to by Mrs. Emma Haines-Bowen, '67, its only representative present. Mrs. Bowen took pleasure in referring to the evident influence that noted class was having on humanity in general and the building up of prosperous communities in particular.

E. C. Abbott, President of the Class of '93, followed with a response to the toast "The Last Class." As he could not speak of past achievements of the Class of '93, he restricted himself to

(Continued on page 173.)

LOCAL MATTERS.

Prof. White writes from Washington that his brother is no better.

Prof. Walters lectured before the Wabaunsee County Institute last evening.

Prof. and Mrs. Georgeson left on Thursday for a visit of two weeks to the Fair.

The College ball club suffered defeat at the hands of the Manhattan club Monday.

Mr. McCreary is in Chicago for medical treatment. He expects to be absent about two weeks.

Judge A. J. Abbott, of Garden City, attended the exercises on Tuesday and Wednesday. He had a son in the graduating class.

Through a printer's blunder, the name of Mac F. Hulett of the Class of '93 was left out of the catalogue, and his sister's inserted twice.

The Board of Regents transacted chiefly routine business at their session this week. The proceedings will appear in the next number of this paper.

Prof. and Mrs. Olin's new son has been named Oscar Abbott—the last name given by the Class of '93 in honor of their President, E. C. Abbott.

Dr. Mayo received a telegram Thursday morning announcing the death of his grandfather at Battle Creek, Mich., for which place he left in the afternoon of the same day.

The State Architect has submitted sketches of the Science Hall for examination and criticism, and President Fairchild and Professor Walters carried them to Topeka Friday with sundry suggestions for improvement.

Herr Hans Moore, a director, and Albert Scheret, a professor, in the Agricultural College near Luzern, Switzerland, visited the College last week. They are studying the methods and conditions of agriculture in the interest of the Department of Agriculture of their Government. They intend to visit the College again on their return trip from the Pacific coast.

The new catalogue, 1892-3, just from the State Printer's hands, is a beauty in form and typography, as well as an improvement over previous issues in presentation of the College methods, equipment, and attendance. The total enrollment of students is 587, of whom 201 are young women. They are classified as follows: Post-graduate, 29; Fourth-year, 43; Third-year, 66; Second-year, 110; First-year, 339.

GRADUATES AND STUDENTS.

Jas. E. Payne, '87, has recently opened a real estate and insurance agency office at Edgerton.

Mary Cottrell, '91, finds profitable employment in the Christian Endeavor Hotel, Chicago, this summer.

W. T. Anderson, student last year, has employment suited to his tastes in the leading job printing office of Parsons.

Ivy Harner, Maude Knickerbocker, and T. E. Lyon, Class of '93, take up work in the Riley County Institute this week.

J. S. Hazen, '89, was accompanied by his wife (formerly Miss Annette Merrill), to whom he was married June 12th in Des Moines.

Misses Tunnell, Little, and Knipe are re-elected teachers in the Manhattan Schools, and Miss Houghton is added to the force.

W. D. Oakford, student in 1891-2, now in the employ of the Rock Island Railroad Company at Herrington, visited College friends the first of the week.

Margaretha Horn starts next Tuesday for a visit among Iowa friends, after which, on July 1st, she reports for duty in the Kansas Building at the World's Fair.

Graduates Mayme Houghton, Lillian St. John, Delpha Hoop, Elizabeth Edwards, Christine Corlett, May Secrest, A. D. Rice, H. A. Darnell, and a host of former students attend the Teachers' Institute in Manhattan.

J. E. Taylor, Fourth-year last fall term, returned from Chicago, where he has been working at the carpenter trade, last week to witness the graduation of his classmates. Mr. Taylor will complete his course here next year.

COMMENCEMENT.

(Continued from page 172.)

the possibilities and probabilities of its members individually and the class collectively.

Alumni History was related in a very interesting manner by Phoebe Haines, '83.

A quartette, "Legends," by four ladies—Pearl Dow, '91; Delpha Hoop, '91; Alice Vail, '92, and Ione Dewey, '93—followed.

To the toast "Our College Societies" responses were made as follows: "The Websters," Prof. G. H. Failyer, '77, an Alpha Beta; "The Alpha Betas," Sam Kimball, '73, a Webster; "The Hamiltons," Tina L. Coburn, '91, an Ionian; "The Ionians," Ben Skinner, '91, a Hamilton.

After giving three rousing cheers for the Kansas State Agricultural College and singing "Auld Lang Syne," the company dispersed, cherishing many happy recollections of college days and college friends.

ALUMNI REGISTER.

'67.—Emma L. Haines-Bowen, Manhattan, housewife.

'72.—S. W. Williston, Lawrence, professor of paleontology and director of the geological survey, State University.

'73.—Sam Kimble, Manhattan, county attorney.

'75.—R. E. Lofinck, Manhattan, merchant.

'76.—Nellie Sawyer-Kedzie, Manhattan, professor of household economy and hygiene in Kansas State Agricultural College.

'77.—Ella S. Child, Holdredge, Nebraska, teacher; G. H. Failyer, Manhattan, professor of chemistry in Kansas State Agricultural College; W. Ulrich, Manhattan, contractor and builder.

'82.—W. Knaus, McPherson, editor and entomologist; Mattie E. Mails-Coons, Manhattan, housewife.

'83.—Mary C. Bower, Manhattan, clerk; Emma E. Glossop, Manhattan, teacher; W. J. Griffing, Manhattan, farmer and fruit grower; Phoebe E. Haines, Manhattan, post-graduate student, Kansas State Agricultural College; Jacob Lund, Manhattan, mechanical engineer; J. T. Willard, Manhattan, assistant professor of chemistry, Kansas State Agricultural College.

'84.—Florence J. Brous, Kansas City, teacher; Hattie L. Peck-Berry, Jewell City, housewife.

'85.—A. L. Noyes, St. Louis, Mo., electrical engineer.

'86.—E. Ada Little, Logan, Utah, instructor in sewing and music, Utah Agricultural College; E. H. Perry, Topeka, real estate agent; Ada H. Quinby-Perry, Topeka, housewife; Minnie Reed, Manhattan, post-graduate student, Kansas State Agricultural College; W. E. Whaley, Manhattan, lawyer.

'87.—F. H. Avery, Wakefield, farmer and horse breeder; C. M. Breese, Manhattan, assistant in chemistry, Kansas State Agricultural College; M. A. Carleton, Manhattan, assistant in botany, Experiment Station, Kansas State Agricultural College; F. B. Elliott, Manhattan, real estate and insurance agent; Clara M. Keyes, Banner, California, teacher; F. G. Kimball, Hastings, Nebraska, railway postal clerk; F. A. Marlatt, Manhattan, assistant in entomology, Experiment Station, Kansas State Agricultural College; Mary E. Moses, Manhattan, at home; G. N. Thompson, Belmond, Iowa, carpenter; W. M. Wright, Lake Arthur Louisiana, farmer.

'88.—J. R. Harrison, Salina, railway postal clerk; Abbie L. Marlatt, Logan, Utah, professor of domestic economy, Utah Agricultural College; W. C. Moore, Junction City, editor; E. H. Snyder, Highlands, Colorado, editor; Lora L. Waters, Manhattan, post-graduate student, Kansas State Agricultural College.

'89.—J. W. Bayles, Garrison, teacher and farmer; S. S. Cobb, Wagoner, I. T., druggist and postmaster; J. H. Criswell, Manhattan, farmer; C. E. Freeman, Manhattan, post-graduate student, Kansas State Agricultural College; J. S. Hazen, Des Moines, Iowa, U. S. weather bureau observer; A. B. Kimball, Manhattan, teacher and farmer; Susan W. Nichols, St. Joseph, Missouri, music teacher; C. W. Thompson, Holton, dentist; Jane C. Tunnell, Manhattan, assistant principal of high school; H. S. Willard, Manhattan, physician.

'90.—G. W. Dewey, Manhattan, photographer; C. J. Dobbs, Topeka, lawyer; S. C. Harner, Leonardville, teacher and farmer; Bertha S. Kimball, Manhattan, post-graduate student and micro-

scopic draughtsman, Kansas State Agricultural College; Harriet E. Knipe, Manhattan, teacher; Nellie P. Little, Manhattan, teacher; S. C. Mason, Manhattan, assistant professor of horticulture, Kansas State Agricultural College; Julia R. Pearce, Manhattan, assistant librarian, State Agricultural College; E. C. Pfuetze, Manhattan, superintendent of city water-works; Marie B. Senn, Manhattan, post-graduate student, State Agricultural College; R. Snyder, Oskaloosa, farmer and teacher; H. N. Whitford, Manhattan, teacher.

'91.—W. S. Arbuthnot, Belleville, veterinarian; H. W. Avery, Wakefield, farmer; F. C. Burtis, assistant in agriculture, Experiment Station, Kansas State Agricultural College; Tina L. Coburn, Kansas City, teacher; Christine M. Corlett, Manhattan, teacher; Helen P. Dow, Manhattan, clerk in post-office; Anna Fairchild-White, Manhattan, housewife; Amy M. Harrington, Junction City, teacher; Delpha M. Hoop, Manhattan, teacher; Mayme A. Houghton, Manhattan, teacher; F. M. Linscott, Ottawa, veterinarian; Bessie B. Little, Manhattan, assistant in sewing and post-graduate student, Kansas State Agricultural College; Nellie E. McDonald, Manhattan, teacher; D. C. McDowell, Emporia, Student at Emporia College; Madeleine W. Milner, Topeka, at home; Lottie J. Short, Manhattan, post-graduate student, Kansas State Agricultural College; B. Skinner, Fairview, principal of schools; Caroline S. Stingley, Manhattan, teacher; Lillian A. St. John, Manhattan, teacher; E. C. Thayer, Vera, electrical engineer; S. L. Van Blurcom, Kansas City, railway postal clerk; Flora E. Wiest, St. John, teacher; Bertha Winchip, Manhattan, at home; A. O. Wright, Jennings, Louisiana, editor; Effie J. Zimmerman, East Norway, teacher.

'92.—Grace M. Clark, Manhattan, clerk in executive office, Kansas State Agricultural College; G. L. Clothier, Alma, county superintendent; H. Darnell, McFarland, teacher; Elizabeth Edwards, Manhattan, teacher; J. Frost, Blue Rapids, teacher; Effie Gilstrap, Chandler, O. T., printer and editor; J. W. A. Hartley, Manhattan, teacher and horticulturist; Kate Oldham-Sisson, Toronto, Canada, housewife; D. H. Otis, Manhattan, assistant in agriculture, Experiment Station, Kansas State Agricultural College; B. H. Pugh, Topeka, student Washburn College; A. D. Rice, Manhattan, teacher; F. C. Sears, Manhattan, foreman in horticulture, Kansas State Agricultural College; Birdie E. Secrest, Randolph, at home; May Secrest, Randolph, at home; Ruth T. Stokes, Manhattan, post-graduate student, Kansas State Agricultural College; H. W. Stone, Atchison, Y. M. C. A. secretary; W. P. Tucker, Douglass, editor; Mary A. Vail, Manhattan, post-graduate student, Kansas State Agricultural College; Ora R. Wells, Irving, teacher; G. W. Wildin, Topeka, draughtsman, railroad shops.

COMMENCEMENT CHAT.

Toastmaster Williston, '72, was the right man in the right place.

The Class of '93 swells the list of graduates of the College to 359, of whom 120 are ladies.

Assistant Breese sent a good report of Commencement exercises to the Topeka *Capital*.

Four members of the graduating class celebrated their commencement with an attack of measles.

Margaretha Horn's commencement oration finds a place in the columns of the *Kansas Farmer*.

Eusebia Mudge, with her father, starts soon for an extended visit in Illinois and at the World's Fair.

Hugh Mattoon and his bicycle came up from Topeka in time to witness all exercises of the week.

Only twenty-three of the thirty-nine members of Class of '93 enrolled their names in the Alumni register.

Regent Stratford was ill during his visit, and was obliged to leave the scene of jollity at the Alumni Banquet.

The stone which was presented to the Board of Regents by the Class of '93, to be placed in the wall of the new Library Building, contained in a box opening on one side, a Class-Day programme,

a Commencement programme, a College catalogue, and a copy of the *INDUSTRIALIST*, all of which were sealed in an air-tight copper box.

An even hundred of the three hundred and twenty graduates of the College prior to 1893 were present.

The handsome appearance of the College Campus won many complimentary comments from the visitors Wednesday.

In the absence of a World's Fair in '96, the Alumni Reunion should be the biggest and most important meeting of the year.

The Class of '93 enjoy the distinction of enrolling the first Smith in the record of the Alumni. Three of their number answer to that name.

The city papers give excellent reports of commencement. That prepared by Rev. J. S. Norton for the *Republic* is exceptionally full and interesting.

Of the many attractive sights during the week perhaps nothing held the attention of admirers so well and so long as did the machine for exhibiting College views.

Much of the success of the Alumni Reunion is due to Vice-president Mason, upon whom, in the absence of President Williston, the most of the burden of preparation fell.

The Alumni Association elected officers for the ensuing year as follows: Ben Skinner, President; H. S. Willard, Vice-president; Bertha Kimball, Secretary; Mrs. Mattie E. Mails-Coons, Treasurer.

The dinner on commencement day and the banquet in the evening were furnished by the ladies of the Presbyterian Church, and both gave entire satisfaction, and netted the ladies a handsome profit.

The Class of '93 elected the following as their permanent officers, Wednesday: President, Nora Newell; Vice-president, T. E. Lyon; Secretary, M. F. Hulett; Treasurer, F. Hulse; Marshal, W. O. Lyon.

Hon. John Davis occupied a seat on the rostrum by invitation of the President and Board. He is known as an earnest worker for the College. Prof. E. B. Cowgill, editor of the *Kansas Farmer*, who occupied the chair of Mechanics, Physics, and Engineering in the College from 1885 to 1887, was also a welcome visitor.

FARM NOTES FROM VARIOUS SOURCES.

The worst idea that a farmer can get into his head is that he needs more land. We have seen a good many farms, but seldom one where more labor could not be better employed than more land.—*Mirror and Farmer*.

A man who permits fence rows to harbor weeds cannot maintain a reputation as a good farmer. It either proves that he is very slack in his methods, or that the farm does not pay well enough to allow putting any labor upon such useless(?)accessories.

Conditions must always be considered. If the farm is not well adapted for a certain crop it is best to avoid such a crop. Each farm will excel in some respects compared with the adjoining, and this must be considered before determining which crop to grow.

There is no piece of land upon the farm that cannot be put to some profitable use. If too rough to cultivate, rent it to a good flock of sheep. If you don't fancy that, plant it to forest trees. Don't let it remain idle, for then it is a tax and not a gain to own it.

Success on the farm depends more upon the labor and the skill with which it is expended than upon the capital. In no other business is the man with only a little money at a less disadvantage. The very small farmer has really a better chance for profit sometimes than the very large one.—*Farmer's Home Weekly*.

It pays to place manure on a small plot. When the manure is spread over a large surface its effect on any portion is less than when it is applied liberally. There is also an increase in the cost in

spreading over a large field, as the manure must be hauled to a greater distance, and the cultivation of the land is increased without a corresponding gain in crops.

"Can I make sheep, hogs, beans, tobacco, flax, etc., etc., pay?" are perennial questions. As well ask: "Can I make blacksmithing, watchmaking, or picture-painting pay?" Men both make and lose money at all the avocations named. After all it depends more on the man than the avocation.—*Farm, Stock, and Home*.

A spasm of economy has struck the Agricultural Department, but the Department's seed store does not seem to be in the cyclone's path. Democratic Congressmen as firmly believe in the efficacy of liberal doses of common turnip and onion seed to rural constituents as did their Republican predecessors.—*Farm, Stock, and Home*.

Farming differs from any other business in the world, in that it demands the personal care and oversight of the proprietor in every minute detail. This is the reason why small farming pays better than large farming, and is also the reason why attempts to carry on agriculture upon the wholesale plan have rarely been successful.—*Mirror and Farmer*.

For road work entirely there is no better horse than the American trotter. He has the ability to get over the ground fast, and the stamina to stay at it a long time. But for farmers, those who will use the road the most, a horse that has more weight is required. Medium sized men on an average will do more work with greater ease than very large or very small men, and usually have better constitutions. If large horses are desired they should be active. A big horse without action is of little use on the farm.

It is said, says an exchange, that the English sparrows, which have been often accused of eating the buds of fruit trees, are now proving themselves guilty and suffering the penalty for it by dying of poisoning where the trees have been sprayed with Paris green before the buds open. If this is true it is an additional reason for early spraying, and by that means we can rid our orchards and fields of a pest that is almost as bad, if not worse, than the worms they were brought here to subdue, but which they seem to have little fancy for.

We hear a good deal in these days about the taxes the farmer has to pay, much of which is too far true. Nevertheless I believe the greatest tax the farmer pays he imposes on himself. I have seen this past winter at least a dozen mowing machines and hay rakes, four or five reapers, two twine binders and plows, harrows and small tools, *ad libitum*, standing out in the field or yards, exposed to rain and weather, for no other reason that I can think of except to be handy(?)next season. When the owners take from the receipts of the farm to buy new tools and find a big hole in the same receipts at the end of the year they say "farming don't pay; taxes are too high," and spend time enough at the store(?)complaining to have put away the tools a dozen times and so have stopped this self-imposed tax.—*Edwin von Alstyne*.

GENERAL DUTIES AND PRIVILEGES.

General good conduct, such as becomes men and women anywhere, is expected of all. Every student is encouraged in the formation of sound character, by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. No other rules of personal conduct are announced.

Classes are in session every week-day except Saturdays, and no student may be absent without excuse. Students enrolled in any term cannot honorably leave the College before the close of the term, unless excused beforehand by the Faculty. A full and permanent record of attendance, scholarship, and deportment shows to each student his standing in the College.

Chapel exercises occupy fifteen minutes before the meeting of classes each morning, and unnecessary absence from them is noted in the grades.

Every Friday, at 1:30 P. M., the whole body of students gather for a lecture from some member of the Faculty, or for the rhetorical exercises of the third- and fourth-year classes. Once a week all the classes meet, in their class-rooms, for exercise in elocution and correct expression.

There are four prosperous literary societies, two of them of many years' standing. All meet weekly, in rooms set apart for their use. The *Alpha Beta*, open to both sexes, and the *Ionian*, for ladies, meet Friday afternoon. The *Webster* and the *Hamilton* admit to membership gentlemen only, and meet on Saturday evening.

The Scientific Club, composed of members of the Faculty and students, meets in the Chemical Laboratory on the last Friday evening of each month.

Once in each term the College Hall is opened for a social gathering of Faculty and students, in which music, literary exercises, and friendly greeting find place.

Public lectures by prominent men of the State are provided from time to time, as opportunity offers. All are free.

THOROUGHBRED CATTLE

FOR SALE

The Farm Department of the College offers to sell some HIGH-GRADE ANIMALS, including several

SHORTHORN COWS

SHORTHORN HEIFERS

TWO SHORTHORN BULLS

A FINE YOUNG HEREFORD COW

SOME ABERDEEN ANGUS HEIFERS

Intending buyers are cordially invited to come and see them. PRICES WILL BE LOW, to suit the times. For further information concerning them, address

C. C. GEORGESON,

Professor of Agriculture,

MANHATTAN, KANSAS.

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc. '75.

VARNEY'S BOOKSTORE.—Popular Head-quarters for College Text-Books and Supplies. Second-Hand Books often as good as new. Call when down town. Always glad to see you.

DRY GOODS.

E. A. WHARTON'S is the most popular Dry Goods Store in Manhattan. The greatest stock, the very latest style, the most popular prices. Always pleased to show goods.

CLOTHING.

ELLIOT & GARRETSON, Clothiers and Furnishers, invite students and all other College people to call and examine their large stock of new goods. All the desirable things in men's wear. Latest styles in every department.

WATCHES, JEWELRY.

J. A. SHELDON, "the Jeweler." Established in 1867. Watches, Clocks, and Jewelry repaired. Eames Block.

R. E. LOFINCK keeps a big stock of Watches, Clocks, Jewelry, and Gold Spectacles, also Musical Instruments. '75.

E. K. SHAW, Jeweler and Optician. Watches, Jewelry, Silver-ware, Spectacles, Clocks, Fountain Pens, Gold, Pens, etc. Repairing of Watches, Clocks, Spectacles, and Jewelry done promptly and skillfully. A written guarantee given with all warranted watch work. 308 Poyntz Ave.

DRUGS.

W. C. JOHNSTON, Druggist. A large line of Toilet Articles and Fancy Goods. The patronage of students is solicited.

HARDWARE.

A. J. WHITFORD sells Stoves and Hardware at very low prices, and carries a large stock from which selections may be made. Student patronage respectfully invited.

DENTIST.

D. R. G. A. CRISE, Dentist, 321 Poyntz Ave. The preservation of the natural Teeth a Specialty.

PHOTOGRAPHS.

D. EWEY, the photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue.

LIVERY.

PICKETT'S NEW LIVERY STABLE.—Everything new and strictly first-class. Special attention will be given to student trade. Prices that will suit you. Stable three doors east of Commercial Hotel.

MEAT MARKET.

SCHULTZ BROS. offer Fresh and salt Meats in great variety. Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

SHAVING PARLOR.

BATHS, \$1.00 cash. 12 shaves, \$1.00, cash. Hair cutting a specialty. All work first-class at Pete Hostrop's Barber Shop, South Second Street.

GENERAL MERCHANDISE

THE SPOT CASH STORE is Headquarters for Dry Goods, Novelties, Boots and Shoes, Hats and Caps, Clothing, and Ladies' Wraps. Lowest prices in the city.

E. B. PURCELL, corner of Poyntz Avenue and Second Street, has the largest stock in Manhattan, of everything wanted by students, consisting in part of House-keeping Goods, School Books, Stationery, Boots and Shoes, Clothing, Hats and Caps, Dry Goods, Groceries, etc., etc. Goods delivered in all parts of the city and at the College, free of charge.

of wandering from the path of life, with only the humility of his penitence to relieve the degrading effect in his progress. In his struggles for a righteous rule, he grew magnificent; in his drifting after lust and hate, he lost both power and respect.

Both paths seem endless: there is no perceptible limit in progress toward God or toward demon. But the path of life has all the perpetuity of an increasing blessedness; while the path of death has only the interminability of a passing misery. One ends not, even in a heaven of ideal peace; the other ends not, even in hell.

Such a contrast is inevitable; we cannot escape it in our own consciousness of the possibilities of life. We cannot face both up and down these separate paths. We cannot even retrace the steps with equal energy, if having drifted wildly down hill we seek at last to climb up again. For every step that faces down the path of death, we can only fall short of what we might have been, even in the long reach of ages.

To find the path of life is the peculiar problem for every individual. Your eagerness for the race today is tempered, perhaps even cancelled, by your doubts of the outcome. No fate fixes the path of fewest obstacles, and no judgment can predict in minutiae the lines of least resistance. The advice of neighbors, friends, and teachers cannot secure it, however much they may aid in the search. Each must work out for himself the problem of growth, of usefulness, of influence, of happiness. Apparently thousands of ways lead into the path of endless life, yet only one can be chosen, and you must choose that one for yourself.

In this choice, the all-important question of vocation is deeper than appears upon the surface. It is of less importance that your hands move in grinding scissars, threading the sewing machine, controlling the loom, directing the plow, the sword, or the pen, than that they move in unison with your heart. To move things, and to move them to some purpose, is the task of every life. When all the motions are analyzed, there is little difference between vocations. But hearty energy in every motion is the secret of enjoyment and of accomplishment. The man who goes to a soldier's grave, with colors flying and patriotic fervor swelling in his heart, has found the road to glory. Physical death is to him the path of life, for it means leadership in true society, a master-stroke in the struggle "that government of the people, for the people, by the people, shall not perish from the earth." John Brown striding to the scaffold, in behalf of human rights, was more truly living than the Czar of all the Russias exulting in luxury over the graves of his starved subjects. Even the mere scavenger of society, if he does all that his ability admits, is wiser, thriftier, happier, than the genius whose laggard steps forever slide behind his opportunities and his powers. The path of life is ever onward, upward, now—wherever there is place to move the least of earth's good things. The choice is now, not in the future years of promised power. Your long look into the future possibilities for usefulness must not be dreams of accomplishment, but for action now. Your anxieties over future ills must weigh in the decision of today. If you have fears for the future of your country or of the race, those fears must help in your righteous action today. No scheme of future usefulness can outweigh the least departure from present righteousness. The path of life is an eternal now.

While no advice can make your choice of life secure, the finding of the individual path of life is, in the providence of God, a simple task. David felt this fact when he uttered the faithful assurance, "Thou wilt show me the path of life." The conditions are comparatively simple.

To find the path of life, one must seek it first by faith—a clear intuition of reasonable faith. This faith assures us that we have a mission; we are sent into the world for a purpose. We must expect to work the works of him that sent us while it is day. To imagine a world without a place for every being in it is impossible. To think of rational powers like yours and mine without a definite plan for their use is logical contradiction. As Joseph Cook expresses it, "the universe has no half-hinges." If in our views of the surrounding nature the hinges seem mis-mated, we find the reason in our lack of knowledge, our lack of appreciation, or our lack of sympathy with the end. Faith that God has use for every faithful energy secures the prime condition for the growth and exercise of power.

If with this faith the way is still obscure, there must be further faith in ways of adaptation. If God, without your aid or mine, has found a way to bring our powers into being, it is but a light task for his wisdom to adapt these powers to the varying circumstances of our need. The bridges to be crossed, the mountains to be climbed, will disappear before a faith in constant adaptation of the powers in nature to the plans of nature's God.

The faith that, like David's, holds fast to infinite wisdom and good-will, puts men in readiness for living in any circumstances. Unlike a trust in fate, it calls for all the energy of personal faculties as the expression of that wisdom. It makes us knock at the doors of usefulness; it makes us seek the avenues of life in expectation; it makes us feel, with all assurance of success, that only "he that asketh receiveth."

This puts us in the mood for accepting information as to the proper path of life. The distrustful soul cannot understand its own capabilities and its own limitations. The so-called "square men in round holes," and "round men in square holes" gain their incongruous places often from faithless views of life and living. Their outlook upon the ways and means of usefulness is warped by doubting fears, lest their peculiar tastes or whims or fancies may not be met. They cannot take true views of usefulness while dreading the outcome. They cannot learn the first lessons of direction in the path of life by daily surroundings, until they expect to be guided into success. The information afforded by daily contact with material things, with friends, with the great thoughts of our age, is available to one who seeks in faith. The question, What can I do? is nearest its answer with those who, expecting daily guidance by surroundings, have taken the pains to test their powers by daily accomplishment.

Still, the faith in providential guidance involves, besides the clear insight as to present surroundings, a readiness to learn by discipline. Strength of character to endure success is often gained through repeated failures. Such faith as David's stands ready to accept any apparent ill in life as a means of climbing after all. The pain of our developing nature is an essential part of the blessedness of development. No Washington, Lincoln, Garfield, or Grant, of cherished memory, reached his position without the discipline of struggling years. The faith which carried them through the struggles included an acceptance of such struggles as the means of growth. The balloon route to the top of our mountain path cannot be used, since our path is built upon the growth of a personal self, whose past of energy, of suffering, and of struggle makes present power and peace.

Yet more than all, such faith insures a readiness to enter the open door. The expectant, earnest, faithful soul has eyes to see the opportunity and hands to grasp it. Most of the world's inventors have reached their goal through years of faithful search along a single line of progress, until at last the door, open for them as it could be for no

others, made easy what before was impossible. The world's philanthropists have been the men ready to enter by faith upon the work inviting them, because they stood ready to seize the opportunity. No possible preparation for these great occasions can prevent the need of an abiding faith, that when the power is fully ready the open way to its use will follow. With this faith, all preparations count for all they cost. The cultured Moses, waiting forty years in solitary contemplation upon a possible mission to his people, is the essential to his catching that sudden inspiration from the burning bush which sent him, at the age of eighty, to organize the Israelitish nation.

Such faith, too, has the inspiration of obedience. Of all the obstacles in the path of life, the worst is disobedience to light before us. "To know the right and still the wrong pursue," makes wrecks of hopes and plans of life. Obedience always makes the most of work at hand; always does the task of today as a part of life's task—a part which may be the foundation stone for all the after structure. If in our pettishness we slight the little opportunities for duty now, because they are little, the greater opportunities cannot come. The true foresight which prepares for the great emergencies of life is without exception found in obedience to calls of duty. The man who leaves his work at hand to contrive some grander enterprise is not the man whom the enterprise will need. The great need, to be sure, must always supplant the less; but to neglect the less in the hope of manufacturing the greater is ruinous.

This faithfulness in obedience makes our life a unit. Every step forward gives a part of the joy of final accomplishment. The joy at the end becomes compensation for every struggle in the midst of the struggle. It is no comfort to believe that a heavenly rest will follow a toilsome life, unless the toil and the rest are counterparts. It is a grand mistake to think that heaven hereafter is heightened only by contrast with a present life of misery. Heaven is built by means of the painstaking and pain-enduring struggles through obedience in usefulness. "For the joy that was set before him, Jesus endured the cross, despising the shame;" since the cross and its shame were means to universal joy for a race. Even the agony of Gethsemane was tempered by obedience to the necessity for a Savior's dying love.

This faithful obedience to providential guidance makes the greatest joy of living. No mortal foresight can insure results, even for one lifetime. We must find pleasure in present advancement by faith that our good intent will serve in some degree all future generations. To live a beastly life, even in secret, gives not even present pleasure, when we think that we have to live with ourselves. The avenues of lust and greed and cruelty are lined with the motto displayed in a New York den of infamy, "Don't Think." But in the path of life shown to the obedient soul, every act is part of a life worth living; every pain is blended with the universal joy, a flavor only in its total. Do not think that you can choose some occupation "to make a living by," while you find your true life outside your occupation? Such a makeshift cannot serve in the path of life. If what you do for a living cannot be a part of your living, don't do it. Better is it not to live than to die to all good in getting a living. The human being who drags out the days of existence in cheating humanity, hoping that sometime he can use his ill-gotten gains in buying happiness for himself, has lost the very good by which happiness exists.

There is no hope of happiness here or hereafter except in faithful obedience to duty as you see it. Do not think that pleasure now at behest of appetite may serve for present joy, while duties done

CALENDAR.

1892-93.

Fall Term—September 15th to December 23rd.

Winter Term—January 9th to March 31st.

Spring Term—April 3rd to June 14th.

June 14th, Commencement.

1893-94.

Fall Term—September 14th to December 22nd.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds *at par*. The law requires that no bonds be sold at par or less without being first offered to the State School Fund commissioners and the State Agricultural college. Address, until July 1st, T. P. Moore, Loan Commissioner, Holton, Kan.

BOARD MEETING.

On Tuesday morning, at nine o'clock, all members of the Board were present.

The degree of Bachelor of Science was conferred upon the thirty-nine graduates recommended by the Faculty, and the degree of Master of Science upon the nine post-graduate students whose work had been commended by Faculty action.

Regent Secret, Chairman of the Committee on Buildings and Grounds, was chosen to receive the special memorial stone for the new building, tendered by the Class of '93.

The Committee on Buildings and Grounds was authorized to make incidental repairs, within the appropriation for such purposes, according to its discretion, and directed to carry forward negotiations with the State Board of Public Works for completing plans and beginning construction of the new Science Hall.

Estimates for Station expenditures during the quarter ending September 30th, \$1300, as recommended by the Council, were approved.

A recommendation of the Faculty as to securing tents in addition to the ordinance now furnished by the United States for the Military Department, was approved. The Faculty was requested to present to the Board a scheme for meeting recommendations of the Inspector General as to daily drill.

The expenditure of \$2500 for a steam engine and electrical apparatus for distributing power was authorized, under direction of Profs. Hood and Nichols.

Authority was granted for the removal of the Printing Office from Mechanics' Hall to the southwest basement of Main Building, with an expenditure of \$350 for new type and apparatus.

Authority was granted to Prof. Georgeson to expend not to exceed \$90 upon a windmill and watering tank for the new well at the old College place. He was also authorized to dig a well in the twenty-acre field on the same farm, to purchase a mower, and to make exchanges as recommended by the Committee on Farm Management, with Hereford cattle and Berkshire swine.

The Mechanical Department was authorized to purchase a carload of pig iron.

Prof. Lantz, Librarian, was authorized to expend \$150 for extra assistance in rearranging the Library catalogue with reference to removal to new quarters, and \$100 in a journey for purchase of books and inspection of library facilities.

The Executive Department was authorized to issue two extra editions of the INDUSTRIALIST during the summer, of 10,000 copies each.

Upon recommendation of the Committee on Employes, Miss Harper and Miss Rupp were engaged for another year, at the same salary; the salaries of Assistants Burtis and Carleton, and of Foreman Harrold, were increased from \$720 to \$800; and the Committee was authorized to employ an instructor to take charge of rhetorical work, at a salary not to exceed \$1000, for the year beginning September 1st next.

Regents Secret, Fairchild, and Stratford, a Special Committee, offered the following recommendation, which was adopted: "That a series of weekly lectures upon prominent economic and financial questions be provided during the Fall and Spring terms, open to all classes of students, and that the special winter course of lectures for farmers embrace an additional course of similar character." Regents Kelley, Stratford, and Fairchild were made a Special Committee to report at the next meeting of the Board a list of suitable lecturers for this purpose.

The bond of E. D. Stratford, Loan Commiss-

sioner, was presented and approved, and various claims were considered and allowed, after which the Board adjourned to meet on Tuesday, August 15th, at 3:30 P. M.

OUR PHOTOGRAPH EXHIBITOR.

Prof. Hood has invented, and now has in successful operation in the shop, an ingenious machine for showing large pictures of College scenes. The device is intended to show in sequence over 200 views of the College. These views are bromide pictures 11 x 14, mounted on cards 14 x 17. Along the upper edge of each card, and extending over each end one inch, a stiff wire is fastened. The pictures are all handled in the machine by this projecting wire rod. In the upper part of the machine the picture rods rest at each end on a cord which is given a very slow forward movement. This movement crowds the pictures against a stop at the front of the machine over which they are raised at intervals by levers taking one at a time. The pictures drop forward slightly, and, by means of small feet on the side of an endless chain, are pushed downward. They are prevented from falling downward by the ends of the rods being held in a vertical slot partly closed by a flexible rubber tube. When the picture has dropped below the one crowding up behind, it is thrown onto a traveling cord similar to the one at the top of the machine, but traveling in the opposite direction. As a picture is pushed down in front one is also taken from below at the back and raised to the upper part of the machine. This enables both the upper and the lower parts of the machine to be closely packed with pictures. The projecting feet on the endless chain which lower and raise the pictures also operate the levers which raise the pictures at the proper time from the traveling cards into a position to be engaged by the chain feet. The exhibitor contains 225 pictures, of which it will show from four to ten a minute, as desired. It will form a part of the College exhibit at the Fair, and will probably be operated by the Atchison, Topeka, and Santa Fe Railway Company's motor which furnishes power for the miniature train shown by the Company in the Kansas Building.

THE SUMMER'S PLANS.

President Fairchild left yesterday for a much-needed rest. He will visit various places in the East, and stop a few days at the World's Fair.

Prof. Failyer spends two weeks at the Fair. Later he will perhaps visit different parts of the State in his search for geological specimens.

Prof. Popenoe finds his country place so attractive that he cannot leave it, even for the big show. He will perhaps add to the Entomological Museum in the few short trips he plans to various parts of the State.

Prof. Lantz is busy with the re-arrangement of the Library for the new quarters which will be ready for it next year. He will spend a few weeks in eastern cities making purchases and studying library facilities.

Prof. Walters is just home from Stillwater, Oklahoma, where he made plans for the improvement of the Agricultural College grounds. He will give his attention to the new building, and later may visit the Fair.

Secy. Graham may visit the Fair in August or September, but for the present may be found at his desk.

Prof. Olin will spend the summer at home except for the time he will give to lectures before teachers' institutes.

Mrs. Kedzie will attend the annual meeting of the Association for the Advancement of Science, at Madison, Wis., and afterwards visit in Michigan and at the Fair.

Mrs. Winchip will rest with home folks in Vermont whom she has not visited for twenty-five years, and on her return will stop a few days at the Exposition.

Prof. Hood will be busy with plans for the heating and power plant until July 1st, when he goes to Chicago for a month of study in his line at the Fair.

Prof. Brown, as President of the Kansas Conservatory of Music, will soon have another Commencement on his hands at Leavenworth, and

will then treat himself to a part of the rich musical feast now on tap at the Fair.

Supt. Thompson will see the Printing Office safely moved to its new and commodious quarters in the Main Building, and get ready the charming new gown which the INDUSTRIALIST will wear next year.

Prof. White is yet in Washington, at the bedside of his brother, but plans to divide his time between the delights of the Fair and the Adirondacks.

Prof. Georgeson is at the Fair. He will return in two weeks, and will spend the summer for the most part at the College looking after the numerous experiments in progress.

Capt. Bolton will visit at the Fair and elsewhere until the middle of August, when he expects to be ordered to join his company in Texas.

Prof. Nichols is at the Fair. He will visit in Iowa on his return trip.

Prof. Mayo is in Michigan, and will later spend several weeks at Chicago.

Prof. Willard will spend the month of July at the Exposition whither he is called by the Government Director of Experiment Stations to conduct laboratory demonstrations. He will have half of each day to view the wonders all about him.

Prof. Hitchcock is in Chicago, where he will spend a few weeks, and on his return will busy himself in laboratory work and collecting.

Prof. Mason will use his spare time to discover if possible in remote corners of the State some trees not generally known to occur there, and may visit the Exposition.

Miss Harper will spend a month or six weeks in the Summer School of Mathematics at Cornell, and visit the Fair en route.

Miss Rupp is at home in Topeka, with a brief visit to the Fair in contemplation.

LOCAL NOTES.

Prof. Hood was in Topeka on business Wednesday.

A daughter was born on Monday to Mr. and Mrs. Gundaker.

Ninety-eight varieties of onions in the experimental gardens promise well.

The twenty varieties of raspberries are ripening, and promise an average yield.

C. E. Freeman, '89, is engaged in the construction of a camera of his own design, which will be made from aluminum.

The crop of raspberries and blackberries on the old College Farm is sold to Mrs. Hall, of Manhattan, who is now picking and marketing the fruit.

F. A. Waugh, '91, Professor of Horticulture at the Oklahoma Agricultural College, has been made editor of the press bulletins issued by the Experiment Station.

E. R. Burtis, Third-year in 1890-1, is visiting College friends after two years at Rose Polytechnic Institute, Terre Haute, Indiana. He plans to finish the course there and graduate in 1895.

In the absence of Prof. Nichols the College weather service will be in the hands of G. K. Thompson, '93. Any sudden or unlooked for phenomena with this uncertainty of uncertainties may hereby be explained.

Two stray horses were taken up by the College on June 19th. One is a dark iron-gray mare, weight about 1300 pounds; and one a light gray gelding, weight about 1200 pounds. The owner can find his property at the College barn.

A rod each of the first and second crop potatoes have been dug for comparison as to value for new potatoes, with results wholly satisfactory, as was, indeed, judging by last season's experiments, confidently expected—the yield from the second crop planting being greater and the tubers heavier than the product of the first crop planting.

The Horticultural Department will today have finished picking strawberries from the experimental plats, amounting, all told, to three-eighths acre. About 1000 quarts have been picked, and marketed at 12½ cents per quart. Of the hundred varieties under experiment, but twenty-five—probably less—are profitable sorts; the remaining three-fourths are not worth ground room. The experiments in detail will be given in a bulletin.

BACCALAUREATE SERMON.

(Continued from page 176.)

hereafter shall compensate for present neglect. Such appetizing pleasures turn bitter in the very tasting, and after effort to renew lost life adds only pain to the struggles that ought to bring joy. To live is to enjoy the thought of everlasting possibilities. Anything less is outside the path of life.

"Live while you live, the epicure would say,
And seize the pleasures of the present day.
Live while you live, the sacred preacher cries,
And give to God each moment as it flies.
Lord, in my views let both unite be,
I live in pleasure when I live to thee."—(Doddridge).

I find, then, that "the power of an endless life" is within my touch at every step of growth. It rubs against you now and invites your grasp. The faith of David can make it yours. Can you say to the Father, "Thou wilt show me the path of life," and stand ready to follow his leading? Can you be patient to do his will, and find life in your patience? His will must be done in the end,—your end.

"Though the mills of the gods grind slowly,
Yet they grind exceeding small."

is a maxim for humanity. You cannot escape the eternal necessity of choice in faith, or in fear. In faith, it is life forevermore; in fear, it is the way of death.

I have no wish to sadden you, dear friends, at such a time as this, when all should be encouragement. I only want to hint that the problems before you today give opportunities for heroism. The lines of settled rights and duties between man and man have to be re-settled, again and again. The principles of individual liberty of thought, speech, and action must be tested in new relations, under new and clearer methods of expression. The responsibility of every soul is going to be greater when every member of a family is bound to judge in righteousness his public duty toward his fellows. In the next generation, perhaps in yours, the power of statute law to express and enforce the conscience of a people is to be tried. You will have to act on the side of right, or against it—for life or for death. No party lines can hold your conscience or mine. No party schemes can be accepted because our friends accept them. The path of life for you is in your choice of duty with the simple faith that prays for guidance, and accepts each day the light at hand. With your hearts bent on energetic action in the scenes you enter, God will guide you to all truth, and make your very blunders lift you to a higher plane of living. My faith today finds in you a part of my own living, and in your life of usefulness, of active faith and joy, I too shall find a part of my eternal life. May the Father hear from us an earnest, faithful prayer for guidance upwards on the path of life.

"Ten good teams are raised in Austria," says an American horseman who recently returned from there, "to one in the United States." Good general purpose teams, I mean; not what we would call road horses, but big, handsome, stylish matched pairs that can pull a coupe or a Victoria in three minutes. All Austrians are horsemen. They understand what they want, and for years have been breeding for a type. You may buy a Russian mare in one place and go two hundred miles away and buy another. When you hook them together you have a matched team. They are alike in color, conformation, gait, and disposition. One thousand dollars to two thousand dollars is not considered a high price for a superior team, and when they are especially desirable five thousand dollars is sometimes paid. We Americans are not true horsemen in any sense of the word as compared with the Austrians or the English. They love their horses, study them, and take pleasure in driving them, while the coachman sits back where he belongs."

THE HIGH SCHOOL AND THE COLLEGE.

BY PRES. GEO. T. FAIRCHILD.

In the report of the Committee on High School in the Manhattan Board of Education there appears the following statement likely to lead to misapprehensions:—

"The superior advantages of the College (to our pupils) real or fancied, have a powerful influence in drawing the pupils away from the high school, particularly after the first year, and they are admitted on the same terms and are compelled to spend the same time to obtain their College diploma and degree as do the graduates of our grammar school or the graduates from the country district schools, although the high school pupils have spent three years of additional well-directed work on studies in advance of the others referred to.

"It has been impossible, after repeated trials, to make any favorable arrangements with the College to remedy this hindrance to the growth of the high school, and for this reason it seems to be practically impossible to keep up an attendance in numbers that is at all creditable to the city, or which can in any sense be said to warrant the expenditure of money which the high school costs."

It is not to be thought that pupils from the high school do not have the same advantages in entering this College that pupils from any school can have. Many have entered the second year of our College course and graduated satisfactorily in three years. The only obstacle is an examination in studies of the course, such as no good student hesitates to take. The only impossibility as to favorable arrangements has been the granting of conditions to the Manhattan High School which could not be granted to any other school. This, in the nature of the case, is impossible.

The industrial nature of training at this College makes more essential than ordinary the most careful inquiry into the advancement of pupils received into advanced classes. Even graduates from a full college course must conform to such requirements in studies out of the ordinary line, such as are technically connected with industrial training in agriculture, mechanic arts, and household economy.

The College authorities sincerely believe that every youth would do better to spend two years beyond the grammar school in thorough preparation for the scientific training of our course, and no student has failed to receive credit for any work done in the high school when it has been shown equivalent to ours by examination. Parents are responsible for allowing their children to hurry into college. Sixteen is a better age than fourteen for beginning our course of training.

WANTED—THOROUGHBRED STEERS.

The Experiment Station at the College desires to buy or exchange for Shorthorns and Aberdeen-Angus cows and heifers, TEN THOROUGHBRED YEARLING STEERS, either Shorthorns or Herefords, or both. Must be good individuals, and recorded or eligible to record. Also ten common native yearling steers, with but little or no improved blood in them. Address propositions to

PROF. C. C. GEORGESON,
Manhattan, Kansas.

It should be remembered that the value of your horses three or four years hence will depend largely upon the class of stallions you are breeding to this spring. The great improvement in the breeds of horses, and in fact of all farm animals, has been brought about through the selection of males of the very best quality. With stallions, as with all other males used for breeding, it is never good economy to use a grade; such a step is always a backward one. The mare may be a grade, but the sire should always be a pure blood.—*Maryland Farmer.*

THOROUGHBRED
CATTLE

FOR SALE

The Farm Department of the College offers to sell some HIGH-GRADE ANIMALS, including several

SHORTHORN COWS

SHORTHORN HEIFERS

TWO SHORTHORN BULLS
A FINE YOUNG
HEREFORD COWSOME ABERDEEN
ANGUS HEIFERS

Intending buyers are cordially invited to come and see them. PRICES WILL BE LOW, to suit the times. For further information concerning them, address

C. C. GEORGESON,

Professor of Agriculture,

MANHATTAN, KANSAS.

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D. DEWEY, the photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poynz Avenue.

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PICKETT'S NEW LIVERY STABLE.—Everything new and strictly first-class. Special attention will be given to student trade. Prices that will suit you. Stable three doors east of Commercial Hotel.

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6 BATHS, \$1.00 cash. 12 shaves, \$1.00, cash. Hair cutting a specialty. All work first-class at Pete Hostrup's Barber Shop, South Second Street.

GENERAL MERCHANDISE

THE SPOT CASH STORE is Headquarters for Dry Goods, Novelties, Boots and Shoes, Hats and Caps, Clothing, and Ladies' Wraps. Lowest prices in the city.

E. B. PURCELL, corner of Poynz Avenue and Second Street, has the largest stock in Manhattan, of everything wanted by students, consisting in part of House-keeping Goods, School Books, Stationery, Boots and Shoes, Clothing, Hats and Caps, Dry Goods, Groceries, etc., etc. Goods delivered in all parts of the city and at the College, free of charge.

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COLLEGE BUSINESS.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

KANSAS STATE AGRICULTURAL COLLEGE

The Past, Present, and Future of the Greatest Institution of Its Kind in the World—The Opinion of an Alumnus of Wide Experience.

[An address by S. W. Williston of the Class of '72 before the Alumni Association, June 13th, 1893.]

Fellow Alumni, Ladies and Gentlemen:—

Nineteen years ago the present month, I had the pleasure and the honor of addressing the first alumni gathering of the Kansas Agricultural College. The number all told who then constituted the Association to do honor to our Alma Mater scarcely exceeded one half as many as there are in the present graduating class. Nineteen years seem a long time to the class that we welcome to our Association tomorrow. Many, if not most of the young men who are today knocking at the doors of the world for recognition of their claims had not then arrived at the dignity of trousers, and the young ladies who today enter upon their nobler and sweeter mission had not then even reached the blissful age of paper dolls. But, the years have come and gone, with all their fruition and hopes unfulfilled, and we of those ancient days are now fitting our children for the halls of our Alma Mater. The years seem few to us as we look back upon them. We almost fancy that our morrow's tasks are in the class-room, can almost hear the reverberations of our impassioned oratory sounding through the halls of Webster and Alpha Beta, and echoing down through the century. But alas! the echoes have long since been hushed save in the hallowed chambers of our memory.

To me, those memories tonight are inexplicably dear. Perhaps to none of you is it given with me to have gazed with boyish awe on the solemn rites of laying the corner stone of old Bluemont College yonder, and to have wondered whether in the dim vista of coming years he who opened the mysterious receptacle would look back through the centuries and marvel at what manner of men they were who did those things. Possibly there are some within my hearing who played hide and seek with me among the sills and rafters of that unfinished structure, in the interim of the more serious duties of reading, writing, and spelling; others there are here tonight who climbed with me or before me the ladder of learning, rung by rung, doubting, hoping, confident, up to that bit of parchment in strange tongue, with which we should conquer the world.

But to us of those earliest days these memories are ones of mingled sadness and exultation; sad that they are only ones of introspection, glad that upon those foundations builded so long ago has been reared a structure whose fame the State no longer bounds. Not a familiar scene is left of those which twenty-one years ago gladdened my heart as I left the halls of our Alma Mater with the seal of its approval. It is years since the last of my beloved teachers has laid down his labors in its behalf for rest in this world or the one beyond it. Only a short time ago I climbed the old hill where my feet have so often trod, now so strangely unfamiliar, and sought in vain for a souvenir of the edifice in which I spent the student days of six happy years. But as I stood there calling up reminiscences of those departed days, I felt no regrets for what has gone, for before me lay spread out the Kansas Agricultural College of today. The change has been great; it has been good.

The Kansas Agricultural College, more than any other similar institution, was an experiment in its early history. The first, or one of the first, of the Agricultural Colleges of America, and growing, with almost imperceptible changes, from a strictly orthodox institution, the innovations which the world demanded were opposed with all the strength of a hesitating conservatism. But a change had to come, or else its future growth would surely have been gnarled and stunted. The pruning hook and grafting knife were applied with vigor, perhaps too harshly, but the result has been that the fruit it now bears is richer and better, and more adapted to the soil which sustains it. My own education in our College

had not the remotest relation to agriculture and the mechanic arts. Six years of Latin and five of Greek were the inelastic requirements. The round pin and the square pin were both thrust into the same hole; wheat, barley, and oats were all ground together in the same mill. That the results were necessarily bad does not follow. The training here was not much behind the times, and the graduates were left with no more disadvantage than those of nearly all similar institutions. They were not supposed to be fitted for anything, or rather they were thought to be fitted for everything. It was, like all colleges of the times, a general-culture college, and preparation for life's work was supposed to begin after graduation. Few college graduates of those days had any idea whether they would turn out lawyers, doctors, or car-drivers. The tendency of education at the present day has, fortunately, radically changed. The quickened march of progress and the specialization of labor, with increased competition, require that special training shall begin at a much earlier period in the life of the young man or young woman. Furthermore, there has been a wonderful change in our appreciation of the professors. Time was that the only occupation befitting a gentleman was one of the so-called learned professions. Why? Because these professions required a more intellectual culture than was deemed necessary for other pursuits. But they have lost much of their relative importance in these days. The respectability of scores of other pursuits has increased, because the fact is recognized that they offer good opportunities for brains, and because brains have entered into them. The farmer boy of twenty years ago saw naught but drudgery and unintelligent labor in his vocation. He goes away from this College convinced that farming and mechanical arts offer the same opportunity for the exercise of his intellectual powers as does the profession of medicine or law; whether he becomes a lawyer his education here will bear its fruit. It is because the science of farming is rapidly acquiring a literature that it is becoming more respectable. Never, do I think, has the Congress of the United States done a wiser act than in the establishment of so many experiment stations throughout the country. They are raising farming and the allied pursuits from a trade to a science. There always has been, and perhaps always will be, men to do physical labor, and other men to do the thinking. The trouble with farming in the past is that it has consisted too much of manual and too little of mental labor. But it is not my intention to give an eulogium upon the idyllic life of the farmer. There is earnest thought and toil and anxiety here as everywhere else for the man or woman who fulfills his part in life. But I do wish to impress upon you that the influence of our school is not measured alone by the number of graduates which it sends forth. It is showing daily to the people of the State and of the United States that there are other professions as honorable as those which have so long held sway in the past. It is making the waste places of intellectual life glad by the growth of new ideas.

When I was a freshman here twenty-five years ago, an attendance of one hundred or one hundred and twenty-five students was prosperity. Tomorrow the graduating class will be greater in numbers than that of all the real college students of my senior year. The commencement of my senior year was on the fourteenth of March, in order that the students might go home to do the spring plowing and butter-making. Education now is the all-important thing, and spring plowing is of subsidiary interest. There was but one building then, where all our work from the three R's up to calculus and Plato was done. The buildings are so numerous now that I do not even know how many there are, and there are more to come, and still more needed. It was an exciting day when our teacher got out his electrical machine and Leyden jars and gave us instruction in practical electricity. The wonders of natural science were duly impressed upon us by the professor of everything, with a twenty-five dollar outfit in chemistry.

How great were the resources of our Alma Mater when the annual catalogue gravely stated that the chemical department was equipped with

six test-tubes! I never saw a microscope till after I had graduated. And I could hardly have conceived the possibility that I should live to see the day when a thousand-dollar microscope would be so small a part of the teaching outfit that its very existence would be looked upon as a matter of course. When I began my study in this College the Library was so small that I gravely entertained the project of reading it through, shelf by shelf, and was only deterred from my task by the fact that the books came in rather too fast. Its museum collections, aside from those of Professor Mudge, could have been placed in your trunk and yet left room for your fall overcoat. Can the young college graduate of today hear of these small beginnings and not wonder whether we amounted to much after all? Perhaps not, but we thought we did, and our graduating addresses were just as grandiloquent as yours will be tomorrow, probably more so.

There was a very great tempest in a very small tea-pot when we founded the Webster and Alpha Beta Societies twenty-five years ago, but even as these societies have survived and increased in usefulness, so too, the infant College of those days has reached a lusty youth. May it increase ever in vigor while the world needs it.

Such an education as we got—and I will contend that it was good, for we had some noble teachers in those days too—gave us advantages. Men thought we had to find them out for ourselves, which were perhaps as great as those you enjoy today; for if you will reflect that, although you who graduate tomorrow have had advantages that were unknown to us, the world expects and demands their utilization. Your training has been better, but the obstacles which you have to overcome are correspondingly greater, and your brains are just as necessary for success now as then.

Let us consider what have been the great changes in this quarter of a century, that we may guess what the demands will be for the future. First and chief has been the recognition of the fact that all persons are not endowed alike, that the training for one will not apply for all, that the square peg cannot be made to fit in the round hole. And, with the recognition of this fact, has come its corollary, specialization in education. Then, there was no professional training worthy of the name, even for the so-called learned professions. A few months of pupilage was all that was deemed necessary for the lawyer or the doctor, and the preacher was too often called and not educated. Today training schools in all departments of learning and applied arts are coming into existence by the score. Every college that is worthy of the name is either adapted or adapts itself to the needs of the individual. No longer is every student who wishes a college training required to dig out Greek roots through all his course. This College was one of the pioneers in the recognition of specialization in education, and it is continually striving to widen its opportunities, rather than to abridge them. It has been founded upon a broad enough basis, and it is our duty to aid in its development along the lines for which it was intended. It is not enough that the young people of our State should have the opportunity to acquire a knowledge of agriculture, wide as the field may be. The veterinarian, the architect, the engineer, the builder, the vast circle of trades that are now looked upon simply as trades because brains have not found them to make them arts, surely need and will as surely find a place here. There need be no competition between this and other State institutions of learning; the field is wide enough, and it is daily becoming wider. But this should be remembered; if one institution lags in the race for improvement, the others are apt to invade its chosen field. Let us then as alumni not forget that growth is life; inertia, death. As it widens out and takes in new domains of education, instruction must be elementary. But the true function of the College is that of a professional school,—a professional school to educate men and women for practical life,—and it must grow upward just as fast as the elementary schools of the State can keep in touch with it. Nothing should be taught here that the State can teach elsewhere just as well.

The second great change, perhaps the first, that has come about in these twenty-five years is the place which science has achieved. The patient acquisition of facts and the study of things have taken the place of beliefs with all their glittering generalities. Imagine the great science of chemistry now being taught with the aid of a dozen

test-tubes by a professor of everything! Fancy, if you can, biological instruction without the aid of a microscope! And all this I can say, without fear of contradiction, has come about by the universal acceptance of the doctrine of evolution. In the last quarter of a century the increase of our knowledge of the natural sciences has been greater than all that the world knew of them previously. New principles applied to these sciences have invaded all other branches of knowledge. Students now learn to solve their own problems; the laboratory has become the real school, and the teacher now is he who guides, directs, sympathizes with, and encourages the pupil. More and more is it recognized that the great principle of education is to train rather than to impart knowledge. Even as the athlete cannot be made by swallowing food, so too the educated man cannot be made by swallowing knowledge. It is tools that the student wants, not a granary.

After all, then, it is the teacher that makes an institution, and good teachers are every day becoming more expensive, because more and more is required of them. The growth of this institution will be surest and its usefulness greatest when this fact is recognized in our State as fully as it is elsewhere. That our College has reached its present high position has been chiefly due to its Faculty. There must be a jealous care in the future that as good, and the Faculty will pardon me if I say even better, men are found here. Not only should the teachers be as good as in the better universities, but they should be better, and should be paid better. The work is more or less in an untried field, and the ablest men should find inducements to go into it. Again, there is need of more teachers with less class-room work for each. Let me repeat that the old idea of scholarship as the primary requisite in a teacher has departed never to reappear. Teachers here must be men who themselves make knowledge. The silent influence of an earnest student and investigator is far greater in the class-room than that of all the instruction which he can give. The function of the Agricultural College is pre-eminently two-fold—to acquire new facts and to impart those already known. Let us not lose sight of the fact that, desirable as the growth in wealth and appliances may be, the future of our College depends chiefly upon the encouragement its Faculty receives.

Temptations should not come to the worthy man who is laboring earnestly here; he should not be constantly scanning the horizon for other places. He asks not for a fortune to leave his sons and daughters; all the endowment he seeks for them is a good education. But he does ask to be relieved from pecuniary worries, that his heart may be given wholly to his work. The lawyer, merchant, or physician of equal abilities who does not surround himself with more of the creature comforts of life is doing poorly indeed.

With the great accumulation of knowledge in the past few decades, with the vastly greater reliance that is now placed upon the deductive reasoning from established facts, comes greatly increased needs of libraries. I thought in my callow days that it would be a good thing to read through our College Library. I was taught that knowledge was power, and the more knowledge that I absorbed the more powerful would I be. The library today is a tool, and the most necessary tool of all that we can possibly secure. This, perhaps, is the most difficult thing for the people of our State to understand. The investigator can work in an attic, he can patch up instruments out of old bottles, but he can do nothing without books. He must know what has been done in the past before he can add to the stock of knowledge, or lay any foundations for the future. Doubly fortunate are we today, both in the Agricultural College and the University, that there has been a grand recognition of these needs in the new library buildings. May both buildings soon be filled from attic to cellar with those things which we need most of all, books. But they will come, now more rapidly than ever before, and with them will come a power and usefulness of which we can have but little conception. It is a failing of human nature that we seldom are the first to appreciate our home blessings. Not till people from afar tell us that we have something that is good do we appreciate what we have. The Agricultural College has acquired a reputation abroad as I personally know, because its teachers, with all their narrow library facilities, have made themselves known. I believe that our new library building gives warrant

for anticipating an increased power and usefulness second to nothing that has transpired in the whole history of the institution.

Happily, the worst dangers to threaten the prosperity of our State institutions of learning are, I believe, now past. In my day it was sometimes the case that teachers were appointed, not for especial fitness, but through influence, and too often through political influence. Those were the evils of all new States, and we have recently seen how they have wrecked an institution like ours that started out in South Dakota with every promise of usefulness. Even in older States their withering influence is occasionally felt. There has been a rumor in the papers, for political purposes, I doubt not, that politics will enter our institutions of education, but I cannot believe that it is true. I believe that our present Governor of the State will not lend countenance to anything which will injure the fair fame of our College and University. I say that political influence has been divorced from our institutions of learning, and you will pardon me if I give tangible evidence that such is the case. Since my connection as a teacher with the State University, there have been nineteen men appointed to the Faculty by a Board of Regents unanimously Republican in their politics. Of these, nine are avowed Democrats and eight Republicans; of the other two I do not know their politics. Can there be any better evidence of my assertion? The Board of Regents have been guided solely by their devotion to the interests of the School, and future boards, both here and there, will, I confidently believe, be not unlike them. When I was appointed there was no question as to my beliefs. That I had never in my life voted the Republican ticket was a matter which did not concern them, for I was elected to teach geology and not politics. The only prerequisites on the part of any teachers of our State schools are that they shall be upright gentlemen and ladies in the strictest, truest sense of the word, and shall be eminently qualified for their duties. I think that I can confidently say, that among no class of men in any pursuit or vocation does there exist a greater sensitiveness on the subject of beliefs and the right to beliefs than among teachers. Their whole training is one to directly foster such a sensitiveness, and would we have it any different if we could? At the same time, I believe that there are few men who are more tolerant of other's beliefs and less prejudiced. If a position in the State University or State Agricultural College depends upon political beliefs, not a self-respecting man will remain longer than he is compelled to.

And now comes the practical question: What share have we in the development of our Alma Mater? Our number has become a goodly one, and we can no longer excuse ourselves with the plea that we are too feeble to be of service. We are numerous enough collectively, and, pardon me, we should make ourselves numerous enough individually. We have received an excellent education at a considerable expense to the State, and the State rightly demands that we should pay the debt, so far as in us lies. We cannot think for a moment that the State has provided all these costly facilities and teachers for our individual good alone. Of the many thousands of young men and women, how few there are who can avail themselves of all this, inexpensive as it is.

It is our influence for the public good, for the bettering and improvement of all classes of society, that repays the people of the State for what they have done for us, and it should be used, and used to the best of our ability. Our College is judged by its results, and its results are its graduates. Already the State is famed for its means of education. The Agricultural College and the Normal School are looked upon as models of their kind; the University has won for itself an enviable position among the great universities of the land. But all this will come to naught if we do not sustain them with all our might and main. It is not necessarily greatness in numbers that means development, but greatness in usefulness and power. A few graduates who make themselves leaders in thought and morals are of far more value than scores of followers. How often it has been my pleasure in my travels through the State to grasp the hand of some fellow alumnus, or pupil, and to hear good words spoken of some college or university graduate. Kansas has perhaps done all that it should in the past; but the State is growing, and we must grow with it. Better equipment is needed here, more money is wanted, more men and more women to

teach, and more time for them to teach in. I am a graduate of this and a teacher in another of the State institutions; but my fealty to each is none the less. What matters it to one that has all it needs, if the other gets more than its share? The generous friend will be glad that his compeer is prospering. There can be no rivalry between the three State institutions, and the graduates of all should work for the common good—the welfare of higher education. First of all we should never cease to impress upon the legislators of our State the value of our higher schools of learning. We are dependent upon the State Legislature for our very existence. Such will not always be the case, but, until private endowment has come to our aid, every legislator must be shown that the State money is well spent in these schools. A prominent Senator of the last Legislature told me that a senatorial friend of his had been converted from an enemy to a warm friend of the Agricultural College by a single visit here. There are not many of our graduates who are yet rich, and there are not many who have been long enough away from its walls to become prominent in public affairs. But the next ten years will make a great difference in this respect. The time is not far distant when the graduates of our State institutions of learning will be all powerful in the legislative halls, and then I will not fear but that the growth of our schools will be all that a just citizen can wish.

I believe, too, that the relative growth of College and University will soon be more rapid. The State is increasing in wealth, our parents are every year more willing and more able to give their children a good education. At present there are six or seven thousand students in the sectarian schools, the larger part of whom should, and will in the near future, come here or go to Lawrence. The equipment of the University and College has far outstripped that of these smaller colleges, and students will not much be content to go to where the means of instruction are inadequate, when a better education is within their grasp. The plea is sometimes made, and I fear often for selfish motives, that the State institutions are irreligious. Never was there a greater untruth. The teachers here or at Lawrence are as moral and religious as in any institution in the country, and I defy anyone to show the contrary. By no means would I undervalue the lesser institutions. Many a young man receives an education, and a good education, in them that he never could acquire otherwise. But the real place for most of them is as preparatory institutions. With the recognition of this fact, the usefulness of our College will be vastly greater, because then it will devote its attention solely to the highest training. Nor will the usefulness and the honor of the smaller colleges be any the less for concentrating their attention into more legitimate fields.

The affection of a student for his first alma mater rarely decreases with time. We may grumble, and it is a rare student who doesn't sometimes grumble at his college and teachers, but once away we are apt to say all the good of them that they deserve, perhaps more. Still there should be honest criticism of methods and plans; the Faculty and Regents will welcome such. No one can have as earnest a wish for the prosperity as the alumni, and there can be few who are more earnest in the desire for improvement. It will be an excellent thing when the Regents are chosen, either in part or wholly from among the alumni. With the utmost respect for this Board as it has been constituted in the past, the men who compose it cannot, in the very nature of the case, feel so warm an interest in the College as do the graduates. There are not many of our graduates who are qualified for such positions, but there very soon will be. Cannot we, as alumni, use all our influence that such a change may be speedily brought about?

It has been my honor to be the President of another Alumni Association of a department of one of the oldest and strongest institutions of learning in America, but which was languishing till its life was despaired of. Its alumni rallied to its support, and their encouragement gave it new life and has again made it strong and vigorous.

Let it be graven in brass, that we are the support from which our Alma Mater expects much, yea everything. We can furnish it money, directly or indirectly; we can speak words of commendation or carping criticism; we can build up or tear down; we can make the Kansas Agricultural

College a blessing to many thousands yet unborn, or we can allow it to wither and die. Which shall it be? The Faculty, the President, the Regents, the State of Kansas, expects every alumnus of the Agricultural College to do his duty.

SOME COLLEGE STATISTICS.

The Thirtieth Annual Catalogue, just issued, shows a total enrollment of 587 students, of whom 386 are gentlemen, and 201 are ladies. These students represent 68 counties in Kansas and 16 other States. The enrollment by counties and States is as follows: Anderson, 1; Atchison, 2; Barber, 1; Brown, 2; Chase, 3; Cherokee, 2; Clay, 15; Cloud, 2; Coffey, 1; Comanche, 1; Cowley, 7; Dickinson, 4; Doniphan, 3; Douglas, 3; Elk, 1; Ellsworth, 1; Finney, 2; Ford, 2; Franklin, 3; Geary, 10; Graham, 1; Greenwood, 4; Harper, 4; Harvey, 2; Jackson, 13; Jefferson, 11; Jewell, 4; Johnson, 10; Kingman, 1; Kiowa, 2; Leavenworth, 3; Lincoln, 4; Linn, 1; Lyon, 4; McPherson, 1; Marion, 6; Marshall, 14; Meade, 3; Miami, 1; Mitchell, 5; Morris, 11; Nemaha, 11; Neosho, 1; Osage, 16; Osborne, 10; Ottawa, 8; Phillips, 4; Pottawatomie, 23; Reno, 2; Republic, 3; Rice, 5; Riley, 198; Rush, 4; Russell, 8; Saline, 4; Scott, 1; Sedgwick, 3; Shawnee, 25; Sherman, 3; Smith, 1; Sumner, 1; Thomas, 1; Trego, 1; Wabaunsee, 19; Washington, 8; Wilson 2; Woodson, 13; Wyandotte, 7. California, 1; Colorado, 5; Germany, 1; Idaho, 1; Illinois, 2; Iowa, 1; Indian Territory, 4; Missouri, 5; Michigan, 1; New Mexico, 1; Nebraska, 2; Ohio, 2; Oklahoma, 2; South Dakota, 1; Tennessee, 1; Texas, 3; Wyoming, 1.

Fourteen applications for admission were not enrolled owing to lack of sufficient preparation. Of the total enrollment, 267 students were here for the first time.

Divided into classes, the enrollment for the year is as follows:—

	Gentlemen.	Ladies	Total
Post graduate	14	15	29
Fourth year	28	15	43
Third year	41	25	66
Second year	75	35	110
First year	228	111	339
Totals	386	201	587

The number of graduates for the year was 39, of whom 15 were ladies and 24 gentlemen. The number of post-graduate students was 29, of whom 5 gentlemen and 4 ladies were candidates for and received the degree of Master of Science. The total number of graduates to date is 358, of whom 238 are gentlemen, and 120 are ladies.

The enrollment by years for the past 15 years is here shown:—

Year.	Attendance.	Year.	Attendance.
1878-'79	207	1886-'87	481
1879-'80	276	1887-'88	472
1880-'81	267	1888-'89	445
1881-'82	312	1889-'90	514
1882-'83	347	1890-'91	593
1883-'84	395	1891-'92	584
1884-'85	401	1892-'93	587
1885-'86	423		

During this same period of 15 years students have been enrolled from the different States and countries as follows:—

Arizona, 4; Arkansas, 6; California, 10; Colorado, 23; England 13; Florida, 1; Germany, 5; Holland, 1; Illinois, 49; Idaho, 1; Iowa, 31; Indiana, 11; Indian Territory and Oklahoma, 32; Kentucky, 2; Michigan, 5; Missouri, 88; Minnesota, 1; Montana, 1; Massachusetts, 2; Nebraska, 35; New Jersey, 5; New Mexico, 22; New York, 14; North Carolina, 2; Ohio, 17; Pennsylvania, 13; South Dakota, 4; Tennessee, 3; Texas, 5; Utah, 10; Rhode Island, 2; Wales, 5; Washington, D. C., 1; Wisconsin, 1; Wyoming, 3; Vermont, 1; Kansas, 5887; Total, 6316.

The catalogue shows an improvement over those of former years in the new type, the number of illustrations, and the advanced work required of students.

ONE OF MANY.

The State Agricultural College is rapidly becoming one of the leading schools in America. It is well attended from all over Kansas, and has students from nearly every State and some foreign countries.—*Sedan Times Journal*.

CALENDAR.

1893-'94.
Fall Term—September 14th to December 22nd.
Winter Term—January 9th to March 30th.
Spring Term—April 2nd to June 13th.
June 13th, Commencement.
1894-'95.
Fall Term—September 13th to December 21st.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds now to invest in school district bonds *at par*. The law requires that no bonds be sold *at par* or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address, until July 1st, T. P. Moore, Loan Commissioner, Holton, Kan.

LOCAL NOTES.

Send for a Catalogue.

The College year 1893-'94 should and will show a largely increased attendance.

Prof. Mason returned on Tuesday from a collecting expedition in the Texas Panhandle.

W. H. Olin, '89, is for the third time elected Principal of the Osborne schools.

Prof. Hood hopes to have the plans and specifications for the central heating and power plant completed by July 1st.

Foreman Harrold left on Monday for the World's Fair. He will put the College photograph exhibitor in running order before taking in the sights.

Misses Helen and Kitty Morton, of Minneapolis spent a few days at the College last week visiting their cousin, Foreman Sears of the Horticultural Department.

Janitor McCreary writes from Chicago of having undergone with but little loss of strength a surgical operation for neuralgia, and that he expects to soon return home a well man.

C. L. Marlatt, '84, Assistant in Entomological Division, U. S. Department of Agriculture, arrived Monday last for a visit of two weeks. He has just finished three months' work at the Exposition.

F. J. Rogers, '85, was married at North Tonawanda, N. Y., June 27th, to Josephine A. Rand, Second-year in 1887-8. Mr. and Mrs. Rogers will be at home, 54 Columbia Street, Ithaca, N. Y., after July 18th. Mr. Rogers is Instructor in Physics at Cornell University.

The storm of Friday afternoon produced some of the largest hailstones ever seen in this vicinity. Rough, misshapen crystals varying from four to nine inches in circumference were quite abundant in town, and Foreman House picked up one in front of his house which measured eleven and a half inches in circumference.

The newspapers of the State have helped the College much in spreading information as to opportunities offered here for a free education; still it is safe to say that less than one-half of the residents of the State know of the existence of the institution, while those who are familiar with the plan and work and extent of the College may be counted in numbers of five figures. What a field here for missionary work!

Twelve thousand copies of this issue of the INDUSTRIALIST are printed, and most of them mailed to friends of education in the State. Each of these friends of ours can aid the cause by reading the paper carefully and sending for a College Catalogue; at the same time sending the names of friends and neighbors who have children that need the practical education offered here without cost.

Attention is called to the new course of weekly lectures, open to all students, upon prominent economic and practical questions. The design is to give acquaintance with the general principles of sound politics by presenting distinctly various views as to money, banking, government debts, taxation, tariffs, wages and profits, trusts, transportation, postal service, etc., etc. Prominent lecturers will be secured for this course, and an excellent opportunity will be given for hearing both sides of many disputed questions. A list of lecturers will appear in the next issue of the INDUSTRIALIST in August next.

COURSE OF STUDY.

The necessity for so adjusting various branches of a course of study that there shall be as little waste as possible in acquiring both information and discipline, is felt by every teacher. Such a course is not designed to be absolutely inflexible, but to guide the judgment into some definite line of progress from which no mere whim shall turn a student aside.

Each student is expected to take three studies, besides one hour's daily practice in an industrial art; and variations from this rule can be made only with the consent of the Faculty.

Parallel courses are offered to both sexes, with such differences as their necessities seem to call for. The following gives the general scope of the two:—

FIRST YEAR.

Fall Term Algebra.
English Analysis.
Geometrical Drawing.
Industrial.

Winter Term Algebra.
English Composition.
Bookkeeping.
Free-hand Drawing three times a week.
Industrial.

Spring Term Algebra.
English Structure.
Botany.
Industrial.

SECOND YEAR.

Fall Term Geometry.
Elementary Chemistry.
Horticulture.
Industrial.

Winter Term Geometry completed, Projection Drawing.
Agriculture, for young men.
Household Economy, for young women.
Organic Chemistry and Mineralogy.
Twelve Lectures in Military Science.
Industrial.

Spring Term Anatomy and Physiology.
Entomology.
Analytical Chemistry.
Twenty Lectures in Military Science.
Industrial.

THIRD YEAR.

Fall Term Trigonometry and Surveying.
Agricultural Chemistry.
General History.
Industrial.

Winter Term Mechanics.
Political History and Civil Government.
Rhetoric.
Industrial.

Spring Term Civil Engineering, for young men.
Hygiene, for young women.
Physics.
English Literature.
Perspective Drawing two hours a week; Drafting
two hours.
Industrial.

FOURTH YEAR.

Fall Term Agriculture, for young men.
Literature, for young women.
Physics and Meteorology.
Psychology.
Industrial.

Winter Term Logic, Deductive and Inductive.
Zoology.
Structural Botany.
Veterinary Science, for young men.
Floriculture, for young women.
Industrial.

Spring Term Geology.
Political Economy.
An elective in Agriculture, Horticulture, Mechanics,
or related sciences.
Industrial.

OBJECTS.

This College now accomplishes the objects of its endowment in several ways:—

First, It gives a substantial education to men and women. Such general information and discipline of mind and character as help to make intelligent and useful citizens are offered in all its departments, while the students are kept in sympathy with the callings of the people.

Second, It teaches the sciences applied to the various industries of farm, shop, and home. Chemistry, botany, entomology, zoology and mechanics are made prominent means of education to quick observation and accurate judgment. Careful study of the minerals, plants and animals themselves illustrates and fixes the daily lessons. At the same time lessons in agriculture, horticulture, engineering and household economy show the application of science; and all are enforced by actual experiment.

Third, It trains in the elements of the arts themselves, and imparts such skill as to make the hands ready instruments of thoughtful brains. The drill of the shops, gardens, farm, and household departments is made a part of a general education to usefulness, and insures a means of living to all who make good use of it. At the same time it preserves habits of industry and manual exertion, and cultivates a taste for rural and domestic pursuits.

Fourth, It strives to increase our experimental knowledge of agriculture and horticulture. The provision for extensive and accurate researches, made by establishing the Experiment Station as a distinct department of the College, offers assurance of more definite results than can be obtained by ordinary methods. The Professors of Agriculture, Horticulture, Chemistry, Botany, and Veterinary Science, together with the President of the College, form the Experiment Station Council, by authority of which experiments are undertaken and carried on in the several departments, under the special supervision of the professors. These touch "the physiology of plants and animals; the diseases to which they are severally subject, with remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and waters; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable."

The bulletins of the Station, issued at least as often as once in three months, are sent, according to law, free of postage, to all newspapers in the State, and "to such individuals actually engaged in farming as may request the same, and as far as the means of the Station will permit." Correspondence with reference to bulletins and experiments is welcomed, and may be addressed to the several members of the Council.

Fifth, It seeks to extend the influence of knowledge in practical

THE Kansas State Agricultural College

Largest of Its Kind in the World
Six Hundred Students in Attendance
Thirty-five Professors and Assistants

This College, endowed by the Nation and maintained by the State,

OFFERS A FREE EDUCATION

Students received from Common Schools to full or partial Course in Sciences related to Agriculture and the Mechanic Arts, or Household Economy, with genuine Industrial Training in Agriculture, Horticulture, Woodwork, Ironwork, and Printing, or in Sewing, Cooking, and Dairying.

The New Catalogue is Sent Free

It tells the whole story, and shows nineteen photographic views of College buildings and grounds. Write for it today. Address

GEO. T. FAIRCHILD, President,
Manhattan, Kansas.

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc. '75.

VARNEY'S BOOKSTORE.—Popular Head-quarters for College Text-Books and Supplies. Second-Hand Books often as good as new. Call when down town. Always glad to see you.

DRY GOODS.

E. A. WHARTON'S is the most popular Dry Goods Store in Manhattan. The greatest stock, the very latest style, the most popular prices. Always pleased to show goods.

CLOTHING.

ELLIOT & GARRETTSON, Clothiers and Furnishers, invite students and all other College people to call and examine their large stock of new goods. All the desirable things in men's wear. Latest styles in every department.

WATCHES, JEWELRY.

J. Q. A. SHELDON, "the Jeweler." Established in 1867. Watches, Clocks, and Jewelry repaired. Eames Block.

R. E. LOFINCK keeps a big stock of Watches, Clocks, Jewelry, and Gold Spectacles, also Musical Instruments. '75.

E. K. SHAW, Jeweler and Optician. Watches, Jewelry, Silver-ware, Spectacles, Clocks, Fountain Pens, Gold, Pens, etc. Repairing of Watches, Clocks, Spectacles, and Jewelry done promptly and skillfully. A written guarantee given with all warranted watch work. 308 Poyntz Ave.

DRUGS.

W. C. JOHNSTON, Druggist. A large line of Toilet Articles and Fancy Goods. The patronage of students is solicited.

HARDWARE.

A. J. WHITFORD sells Stoves and Hardware at very low prices, and carries a large stock from which selections may be made. Student patronage respectfully invited.

DENTIST.

D. R. G. A. CRISE, Dentist, 321 Poyntz Ave. The preservation of the natural Teeth a Specialty.

PHOTOGRAPHS.

D. EWEY, the photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue.

LIVERY.

PICKETT'S NEW LIVERY STABLE.—Everything new and strictly first-class. Special attention will be given to student trade. Prices that will suit you. Stable three doors east of Commercial Hotel.

MEAT MARKET.

SCHULTZ BROS. offer Fresh and salt Meats in great variety. Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

SHAVING PARLOR.

6 BATHS, \$1.00 cash, 12 shaves, \$1.00, cash. Hair cutting a specialty. All work first-class at Pete Hostrup's Barber Shop, South Second Street.

GENERAL MERCHANDISE

THE SPOT CASH STORE is Headquarters for Dry Goods, Novelties, Boots and Shoes, Hats and Caps, Clothing, and Ladies' Wraps. Lowest prices in the city.

E. B. PURCELL, corner of Poyntz Avenue and Second Street, has the largest stock in Manhattan, of everything wanted by students, consisting in part of House-keeping Goods, School Books, Stationery, Boots and Shoes, Clothing, Hats and Caps, Dry Goods, Groceries, etc., etc. Goods delivered in all parts of the city and at the College, free of charge.

Applicants over 18 years of age, who, for lack of advantages, are unable to pass full examination, may be received on special conditions.

Applicants for advanced standing in the course must pass examination in all the previous studies of the class to be entered; but, if they have pursued such studies in other institutions of similar rank, they may receive credit for their standing in those institutions, upon presenting a certificate from the proper officer, showing that their course has been equivalent to that given here.